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PART 9

COLORADO RIVER BASIN

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In cooperation with the States of

ARIZONA, COLORADO, NEW MEXICO
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and other agencies



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ILLUSTRATION

Plate 1. Gaging-station structures: A, Colorado River at Lees Ferry, Ariz.; B, Williams River at Planet City, Ariz.....	Page 2
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SCOPE OF WORK

This volume is one of a series of 14 reports presenting results of measurements of stage and flow made on streams, lakes, and reservoirs in the United States during the water year ending September 30, 1940. The work was begun in 1888 in connection with special studies relating to irrigation. Measurements of the flow of streams and of the stage and contents of lakes and reservoirs have been made at about 8,800 gaging stations in the United States and also at many gaging stations in Alaska and Hawaii. In July 1940, 4,760 gaging stations were being maintained by the Geological Survey and cooperating organizations. Miscellaneous discharge measurements were made at many other points.

In the execution of the work many State and private organizations have cooperated, either by furnishing data or by assisting in collecting data. Cooperation of the first kind is acknowledged in connection with the description of each station affected; cooperation of the second kind is acknowledged on page 10.

DEFINITION OF TERMS

The units in which stream-flow data are presented in this report and other terms used herein are defined as follows:

"Second-feet" is an abbreviation for "cubic feet per second." A second-foot is the rate of discharge of a stream whose channel is 1 square foot in cross-sectional area and whose average velocity is 1 foot per second.

"Second-feet per square mile" is the average number of cubic feet of water flowing per second from each square mile of area drained, on the assumption that the run-off is distributed uniformly both as regards time and area.

"Run-off in inches" is the depth to which an area would be covered if all the water draining from it in a given period were uniformly distributed on its surface. It is used for comparing run-off with rainfall, which is usually expressed in inches.

An "acre-foot" is the quantity of water required to cover an acre to the depth of 1 foot and is equivalent to 43,560 cubic feet. The term is commonly used in connection with storage for irrigation.

"Second-foot-day" is the volume of water represented by a flow of 1 second-foot for 24 hours. It is equivalent to 86,400 cubic feet, 1.983471 acre-feet, or 646,317 gallons and represents a run-off of 0.0372 inch from one square mile.

"Stage-discharge relation" is an abbreviation for the term "relation of gage height to discharge."

"Control" is a term used to designate a feature below the gage that defines the stage-discharge relation at the gage. This feature may be a natural section, a reach of the channel, or an artificial structure.

EXPLANATION OF DATA

The base data collected at gaging stations consist of records of stage, measurements of discharge, and general information used to supplement the records of stage and discharge

measurements in determining the daily flow. The records of stage are obtained either from direct readings on a nonrecording gage or from a water-stage recorder that gives a continuous record of the fluctuations. Measurements of discharge are made with a current meter by the general methods outlined in standard textbooks on the measurement of river discharge. Typical structures in use at gaging stations are shown on plate 1.

Rating tables giving the discharge for any stage are prepared from the discharge measurements. The application of the mean daily gage height to these rating tables gives the mean daily discharge, from which the monthly and yearly mean discharge are computed.

For most of the gaging stations in the area covered by this report the data presented comprise a description of the station, a table showing the daily discharge of the stream, and a table of monthly and yearly discharge and run-off. Skeleton rating tables are published except for those stations whose daily discharge for the greater part of the year was determined by the shifting-control method, the slope method, or other special methods.

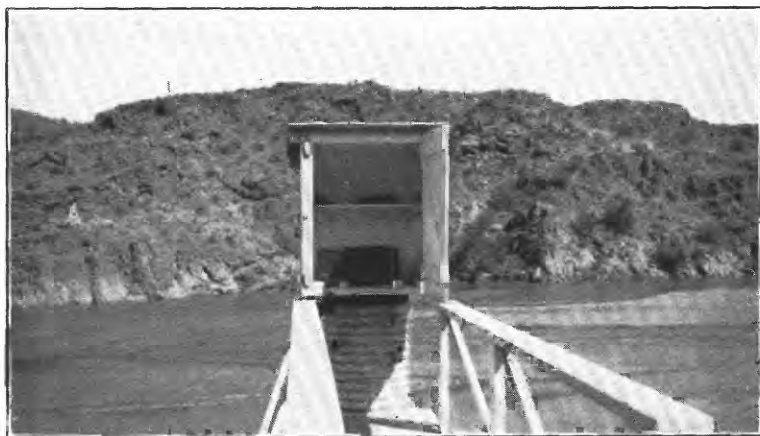
The description of the station gives the type of gage, its latitude and longitude determined from the best available maps, and information in regard to diversions that decrease the flow at the gage, artificial regulation from pondage or storage, and the accuracy of the records. Under "Average discharge" is given the average discharge for the number of years indicated. It is given only for stations for which there are 10 or more complete years of record. Under "Extremes" are given the maximum discharge and gage height; the minimum discharge if there is little or no regulation; the minimum daily discharge if there is extensive regulation (also the minimum discharge if useful); and the minimum gage height (unless it is of no importance). Unless otherwise qualified, the maximum discharge corresponds to the crest stage, obtained by use of a water-stage recorder or a nonrecording gage read at the time of the crest. Likewise the minimum discharge represents the lowest stage, unless otherwise qualified. The peak discharge for the year with the time of its occurrence is given below the table of monthly discharge for some stations. Selected lower peaks are also given if the peak discharge exceeded the mean discharge for that day by more than 10 percent. This supplementary information is generally not given for stations having drainage areas of less than 10 square miles or more than 10,000 square miles.

The table of daily discharge gives, for stations equipped with nonrecording gages, the discharge in second-feet corresponding to once-daily readings of the gage or the mean of twice-daily readings. For flashy floods the mean daily discharge is determined from gage-height graphs based on gage readings made once or twice daily or oftener, as stated in the station description. For stations equipped with water-stage recorders, except those on streams subject to sudden or rapid fluctuation, the table gives the discharge corresponding to the mean daily gage height. For stations subject to such fluctuation the mean daily gage height may not indicate the true mean daily discharge, which must be obtained by averaging the discharge for intervals of the day or by using the discharge integrator, an instrument for obtaining the mean daily discharge from a continuous gage-height graph and containing as an essential element the rating curve of the station.

At some gaging stations the stage-discharge relation is affected by backwater from reservoirs, tributary streams, or other sources, which necessitates the use of the slope or fall in a reach of the stream as a factor in the determination of discharge. Information requisite for determining the slope or fall is obtained by means of an auxiliary



A. COLORADO RIVER AT LEES FERRY, ARIZ.
Note landing tower.



B. WILLIAMS RIVER AT PLANET, ARIZ.
GAGING-STATION STRUCTURES.

gage set at some distance from the base gage. The auxiliary gage, if one is used, is described under "Location." At some stations the stage-discharge relation is affected by changing stage, and for them the rate of change of stage is used as a factor in the determination of discharge.

At most gaging stations in the northern part of the United States and at some in the mountainous regions of other parts the stage-discharge relation is affected by ice during the winter, which makes it impossible to compute the discharge in the usual manner. Discharge for periods of ice effect is computed on the basis of occasional winter discharge measurements and gage heights, consideration being given to the available information on temperature and precipitation, notes by gage observers and engineers, and comparable records of discharge for stations in the same or nearby basins. The days included in the periods of ice effect and the days during the winter period on which discharge measurements were made are indicated in the table by symbols referring to footnotes.

In the table of monthly discharge the column headed "Second-foot-days" gives the sum for each month of the figures for that month given in the table of daily discharge. The column headed "Maximum" gives the maximum daily discharge and not the instantaneous discharge when the water surface was at crest stage. Likewise, in the column headed "Minimum" the quantity given is the minimum daily discharge. The column headed "Mean" gives the average flow in cubic feet per second during the month.

ACCURACY OF FIELD DATA AND COMPUTED RESULTS

The accuracy of stream-flow data depends primarily on (1) the permanency of the stage-discharge relation and (2) the accuracy of observation of stage, measurements of flow, and interpretation of records.

The station description gives a statement in regard to the general accuracy of the records. "Excellent" indicates that, in general, the daily records are accurate within 5 percent; "good," within 10 percent; "fair," within 15 percent; and "poor," within 20 or a higher percent.

Yield at some stations as indicated by monthly means may vary widely from natural yield, owing to diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or other factors. For such stations figures of "second-feet per square mile" and "run-off in inches" are not published unless storage or diversion records are included indicating the extent of the regulation or diversion or unless satisfactory adjustments can be made for changes in contents of reservoirs or for other changes incident to use and control. Figures of second-feet per square mile and run-off in inches are also omitted if the drainage area includes large noncontributing areas or if the average annual rainfall over the drainage area is less than 20 inches.

Many gaging stations on streams in the irrigated areas of the United States are situated above most of the diversions from those streams, and therefore the discharge recorded does not show the water supply available for further development, as prior appropriations below the station must first be satisfied.

The table of monthly discharge gives a general idea of the flow at the station. The table of daily discharge allows more detailed studies of the variation in flow. It should be borne in mind, however, that the observations in each succeeding year may be expected

to throw new light on data previously published, and that greater degrees of refinement in computations and records may be warranted with the increase in data and the use of improved equipment.

PUBLICATIONS

The results of stream-flow measurements are now published annually in 14 parts, each part covering an area whose boundaries coincide with natural drainage features as indicated below:

- Part 1. North Atlantic slope basins (St. John River to York River).
 2. South Atlantic slope and eastern Gulf of Mexico basins (James River to Mississippi River).
 3. Ohio River Basin.
 4. St. Lawrence River Basin.
 5. Hudson Bay and upper Mississippi River Basins.
 6. Missouri River Basin.
 7. Lower Mississippi River Basin.
 8. Western Gulf of Mexico basins.
 9. Colorado River Basin.
 10. The Great Basin.
 11. Pacific slope basins in California.
 12. Pacific slope basins in Washington and upper Columbia River Basin.
 13. Snake River Basin.
 14. Pacific slope basins in Oregon and lower Columbia River Basin.

Water-supply papers and other publications of the Geological Survey containing data in regard to the water resources of the United States may be obtained or consulted as explained below.

1. Copies may be purchased at nominal cost from the Superintendent of Documents, Government Printing Office, Washington, D. C., who will, on application, furnish lists giving prices.
2. Sets of the reports may be consulted in the libraries of the principal cities in the United States.
3. Sets are available for consultation in the local offices of the water-resources branch of the Geological Survey as follows:

East of the Mississippi River:

Albany, N. Y., 525 Federal Building.
 Asheville, N. C., 220 Post Office Building.
 Atlanta, Ga., 5 North Rhodes Center.
 Augusta, Maine, Statehouse.
 Boston, Mass., 945 Post Office Building.
 Charlottesville, Va., House G, Dawson Row, University of Virginia.
 Chattanooga, Tenn., 442 Post Office Building.
 College Park, Md., Engineering Building, University of Maryland.
 Columbia, S. C., 119 United States Courthouse.
 Columbus, Ohio, 404 Engineering Experiment Station, Ohio State University.
 Harrisburg, Pa., 490 Education Building.
 Hartford, Conn., 225 Capitol Building, 410 Asylum Street.
 Indianapolis, Ind., 316 Federal Building.
 Louisville, Ky., 652 Federal Building.
 Madison, Wis., 666 State Office Building.
 Montgomery, Ala., 507 Post Office Building.
 Ocala, Fla., 302 Post Office Building.
 St. Paul, Minn., 808 New Post Office Building.
 South Charleston, W. Va., Armor Park School Building.
 Trenton, N. J., 228 Federal Building.
 Urbana, Ill., 14 Post Office Annex, Elm Street.

West of the Mississippi River:

Austin, Tex., 300 State Highway Building.
 Boise, Idaho, 429 Federal Building.
 Denver, Colo., 230 Customhouse.
 Fort Smith, Ark., 6 Post Office Building.
 Helena, Mont., 408 Federal Building.
 Honolulu, Hawaii, 225 Federal Building.
 Idaho Falls, Idaho, 204 Federal Building.
 Iowa City, Iowa, 508 Hydraulic Laboratory, University of Iowa.
 Los Angeles, Calif., G-31 United States Post Office and Courthouse.
 Portland, Oreg., 606 Post Office Building.

Rolla, Mo., Missouri Geological Survey Building, Missouri School of Mines and Metallurgy.
 St. Louis, Mo., 926 New Federal Building.
 Salt Lake City, Utah, 303 Federal Building.
 San Francisco, Calif., 465 Federal Office Building.
 Santa Fe, N. Mex., 204 United States Courthouse.
 Tacoma, Wash., 1100 Washington Building.
 Topeka, Kans., 305 Federal Building.
 Tucson, Ariz., 210 Post Office Building.

A list of the Geological Survey publications may be obtained by applying to the Director, Geological Survey, Washington, D. C.

Records of flow of streams in the United States have been published in the reports tabulated as follows:

Stream-flow data in reports of the Geological Survey
 (A = Annual Report; B = Bulletin; W = Water-Supply Paper)

Report	Character of data	Year
10th A, pt. 2	Descriptive information only.	1884 to Sept. 1890.
11th A, pt. 2	Monthly discharge and descriptive information...	1884 to June 30, 1891.
12th A, pt. 2	do.....	1884 to Dec. 31, 1892.
13th A, pt. 3	do.....	1888 to Dec. 31, 1893.
14th A, pt. 2	Monthly discharge (long-time records, 1871-93)..	1893-94.
B 131.....	Descriptions, measurements, gage heights, and ratings.	
16th A, pt. 2	Descriptive information only.	
B 140.....	Descriptions, measurements, gage heights, ratings, and monthly discharge (also many data covering earlier years).	1895.
W 11.....	Gage heights (also gage heights for earlier years).	1896.
18th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge (also similar data for some earlier years).	1895-96.
W 15.....	Descriptions, measurements, and gage heights of streams east of the Mississippi River and Missouri River and tributaries above Kansas River.	1897.
W 16.....	Descriptions, measurements, and gage heights of streams west of the Mississippi River except Missouri River and tributaries above Kansas River.	1897.
19th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge (also some long-time records).	1897.
W 27.....	Measurements, ratings, and gage heights of streams east of the Mississippi River and Missouri River and tributaries.	
W 28.....	Measurements, ratings, and gage heights of streams west of the Mississippi River except Missouri River and tributaries.	1898.
20th A, pt. 4	Monthly discharge (also for many earlier years).	1898
W 35 to 39...	Descriptions, measurements, gage heights, and ratings.	1899.
21st A, pt. 4	Monthly discharge.....	1899.
W 47 to 52...	Descriptions, measurements, gage heights, and ratings.	1900.
22d A, pt. 4	Monthly discharge.....	1900.
W 65, 66.....	Descriptions, measurements, gage heights, and ratings.	1901.
W 75.....	Monthly discharge.....	1901.

Note.— Reports containing records for years after 1901 are given in table on page 6.

The table on the following page gives, by years and drainage basins, the numbers of the papers on surface water supply published from 1899 to 1940. The data for any particular station will, in general, be found in the reports covering the years during which the station was maintained. For example, the data for 1910 to 1920 for any station in the area covered by part 3 are published in Water-Supply Papers 285, 303, 323, 353, 403, 433, 453, 473, 503, which contain records for the Ohio River Basin for those years.

The records at most of the stations discussed in these reports extend over a series of years. Miscellaneous measurements at many points other than regular gaging stations have been made each year and are published under "Miscellaneous discharge measurements" at the end of each report, the streams and points of measurement listed appearing in the same relative order as the streams and gaging stations in the body of the report. An index of the records obtained prior to 1904 has been published in Water-Supply Paper 119.

Numbers of water-supply papers containing results of stream measurements, 1899-1940

(For basins included see p. 4)

Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1899 a...	35	b35, 36	36	36	36	c36, 37	37	37	d37, 38	39, e39	38, f39	39	38	38
1900 g...	47, h48	48	48	49	49	49, j50	50	50	50	50	51	51	51	51
1901 k...	65, 75	65, 75	65, 75	65, 75	k65, 66, 75	66, 75	k65, 66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75
1902 l...	82	m82, 83	83	83	m82, 83	84	k83, 84	84	85	85	85	85	85	85
1903 n...	92	92, 93	93	93	k92, 93, 94	94	k93, 94	94	95	95	95	95	95	95
1904 o...	102	102, 103	103	103	k98, 99, 100	100	k98, 99, 100	100	101	101	101	101	101	101
1905 p...	112, 113, 114	112, 113, 114	112, 113, 114	112, 113, 114	k108, 109, 110	110, 111	k108, 109, 110	110, 111	112	112	112	112	112	112
1906 q...	122, 123, 124	122, 123, 124	122, 123, 124	122, 123, 124	k122, 123, 124	124, 125	k122, 123, 124	124, 125	126	126	126	126	126	126
1907 r...	132, 133, 134	132, 133, 134	132, 133, 134	132, 133, 134	k128, 129, 130	130, 131	k128, 129, 130	130, 131	132	132	132	132	132	132
1908 s...	142, 143, 144	142, 143, 144	142, 143, 144	142, 143, 144	k132, 133, 134	134, 135	k132, 133, 134	134, 135	136	136	136	136	136	136
1909 t...	152, 153, 154	152, 153, 154	152, 153, 154	152, 153, 154	k136, 137, 138	138, 139	k136, 137, 138	138, 139	140	140	140	140	140	140
1910 u...	162, 163, 164	162, 163, 164	162, 163, 164	162, 163, 164	k140, 141, 142	142, 143	k140, 141, 142	142, 143	144	144	144	144	144	144
1911 v...	172, 173, 174	172, 173, 174	172, 173, 174	172, 173, 174	k144, 145, 146	146, 147	k144, 145, 146	146, 147	148	148	148	148	148	148
1912 w...	182, 183, 184	182, 183, 184	182, 183, 184	182, 183, 184	k148, 149, 150	150, 151	k148, 149, 150	150, 151	152	152	152	152	152	152
1913 x...	192, 193, 194	192, 193, 194	192, 193, 194	192, 193, 194	k152, 153, 154	154, 155	k152, 153, 154	154, 155	156	156	156	156	156	156
1914 y...	202, 203, 204	202, 203, 204	202, 203, 204	202, 203, 204	k156, 157, 158	158, 159	k156, 157, 158	158, 159	160	160	160	160	160	160
1915 z...	212, 213, 214	212, 213, 214	212, 213, 214	212, 213, 214	k160, 161, 162	162, 163	k160, 161, 162	162, 163	164	164	164	164	164	164
1916 aa...	222, 223, 224	222, 223, 224	222, 223, 224	222, 223, 224	k164, 165, 166	166, 167	k164, 165, 166	166, 167	168	168	168	168	168	168
1917 ab...	232, 233, 234	232, 233, 234	232, 233, 234	232, 233, 234	k168, 169, 170	170, 171	k168, 169, 170	170, 171	172	172	172	172	172	172
1918 ac...	242, 243, 244	242, 243, 244	242, 243, 244	242, 243, 244	k172, 173, 174	174, 175	k172, 173, 174	174, 175	176	176	176	176	176	176
1919 ad...	252, 253, 254	252, 253, 254	252, 253, 254	252, 253, 254	k176, 177, 178	178, 179	k176, 177, 178	178, 179	180	180	180	180	180	180
1920 ae...	262, 263, 264	262, 263, 264	262, 263, 264	262, 263, 264	k180, 181, 182	182, 183	k180, 181, 182	182, 183	184	184	184	184	184	184
1921 af...	272, 273, 274	272, 273, 274	272, 273, 274	272, 273, 274	k184, 185, 186	186, 187	k184, 185, 186	186, 187	188	188	188	188	188	188
1922 ag...	282, 283, 284	282, 283, 284	282, 283, 284	282, 283, 284	k188, 189, 190	190, 191	k188, 189, 190	190, 191	192	192	192	192	192	192
1923 ah...	292, 293, 294	292, 293, 294	292, 293, 294	292, 293, 294	k192, 193, 194	194, 195	k192, 193, 194	194, 195	196	196	196	196	196	196
1924 ai...	302, 303, 304	302, 303, 304	302, 303, 304	302, 303, 304	k196, 197, 198	198, 199	k196, 197, 198	198, 199	200	200	200	200	200	200
1925 aj...	312, 313, 314	312, 313, 314	312, 313, 314	312, 313, 314	k200, 201, 202	202, 203	k200, 201, 202	202, 203	204	204	204	204	204	204
1926 ak...	322, 323, 324	322, 323, 324	322, 323, 324	322, 323, 324	k204, 205, 206	206, 207	k204, 205, 206	206, 207	208	208	208	208	208	208
1927 al...	332, 333, 334	332, 333, 334	332, 333, 334	332, 333, 334	k208, 209, 210	210, 211	k208, 209, 210	210, 211	212	212	212	212	212	212
1928 am...	342, 343, 344	342, 343, 344	342, 343, 344	342, 343, 344	k212, 213, 214	214, 215	k212, 213, 214	214, 215	216	216	216	216	216	216
1929 an...	352, 353, 354	352, 353, 354	352, 353, 354	352, 353, 354	k216, 217, 218	218, 219	k216, 217, 218	218, 219	220	220	220	220	220	220
1930 ao...	362, 363, 364	362, 363, 364	362, 363, 364	362, 363, 364	k220, 221, 222	222, 223	k220, 221, 222	222, 223	224	224	224	224	224	224
1931 ap...	372, 373, 374	372, 373, 374	372, 373, 374	372, 373, 374	k224, 225, 226	226, 227	k224, 225, 226	226, 227	228	228	228	228	228	228
1932 aq...	382, 383, 384	382, 383, 384	382, 383, 384	382, 383, 384	k228, 229, 230	230, 231	k228, 229, 230	230, 231	232	232	232	232	232	232
1933 ar...	392, 393, 394	392, 393, 394	392, 393, 394	392, 393, 394	k232, 233, 234	234, 235	k232, 233, 234	234, 235	236	236	236	236	236	236
1934 as...	402, 403, 404	402, 403, 404	402, 403, 404	402, 403, 404	k236, 237, 238	238, 239	k236, 237, 238	238, 239	240	240	240	240	240	240
1935 at...	412, 413, 414	412, 413, 414	412, 413, 414	412, 413, 414	k240, 241, 242	242, 243	k240, 241, 242	242, 243	244	244	244	244	244	244
1936 au...	422, 423, 424	422, 423, 424	422, 423, 424	422, 423, 424	k244, 245, 246	246, 247	k244, 245, 246	246, 247	248	248	248	248	248	248
1937 av...	432, 433, 434	432, 433, 434	432, 433, 434	432, 433, 434	k248, 249, 250	250, 251	k248, 249, 250	250, 251	252	252	252	252	252	252
1938 aw...	442, 443, 444	442, 443, 444	442, 443, 444	442, 443, 444	k252, 253, 254	254, 255	k252, 253, 254	254, 255	256	256	256	256	256	256
1939 ax...	452, 453, 454	452, 453, 454	452, 453, 454	452, 453, 454	k256, 257, 258	258, 259	k256, 257, 258	258, 259	260	260	260	260	260	260
1940 ay...	462, 463, 464	462, 463, 464	462, 463, 464	462, 463, 464	k260, 261, 262	262, 263	k260, 261, 262	262, 263	264	264	264	264	264	264
1941 az...	472, 473, 474	472, 473, 474	472, 473, 474	472, 473, 474	k264, 265, 266	266, 267	k264, 265, 266	266, 267	268	268	268	268	268	268
1942 ba...	482, 483, 484	482, 483, 484	482, 483, 484	482, 483, 484	k268, 269, 270	270, 271	k268, 269, 270	270, 271	272	272	272	272	272	272
1943 bb...	492, 493, 494	492, 493, 494	492, 493, 494	492, 493, 494	k272, 273, 274	274, 275	k272, 273, 274	274, 275	276	276	276	276	276	276
1944 bc...	502, 503, 504	502, 503, 504	502, 503, 504	502, 503, 504	k276, 277, 278	278, 279	k276, 277, 278	278, 279	280	280	280	280	280	280
1945 bd...	512, 513, 514	512, 513, 514	512, 513, 514	512, 513, 514	k280, 281, 282	282, 283	k280, 281, 282	282, 283	284	284	284	284	284	284
1946 be...	522, 523, 524	522, 523, 524	522, 523, 524	522, 523, 524	k284, 285, 286	286, 287	k284, 285, 286	286, 287	288	288	288	288	288	288
1947 bf...	532, 533, 534	532, 533, 534	532, 533, 534	532, 533, 534	k288, 289, 290	290, 291	k288, 289, 290	290, 291	292	292	292	292	292	292
1948 bg...	542, 543, 544	542, 543, 544	542, 543, 544	542, 543, 544	k292, 293, 294	294, 295	k292, 293, 294	294, 295	296	296	296	296	296	296
1949 bh...	552, 553, 554	552, 553, 554	552, 553, 554	552, 553, 554	k296, 297, 298	298, 299	k296, 297, 298	298, 299	300	300	300	300	300	300
1950 bi...	562, 563, 564	562, 563, 564	562, 563, 564	562, 563, 564	k300, 301, 302	302, 303	k300, 301, 302	302, 303	304	304	304	304	304	304
1951 bj...	572, 573, 574	572, 573, 574	572, 573, 574	572, 573, 574	k304, 305, 306	306, 307	k304, 305, 306	306, 307	308	308	308	308	308	308
1952 bk...	582, 583, 584	582, 583, 584	582, 583, 584	582, 583, 584	k308, 309, 310	310, 311	k308, 309, 310	310, 311	312	312	312	312	312	312
1953 bl...	592, 593, 594	592, 593, 594	592, 593, 594	592, 593, 594	k312, 313, 314	314, 315	k312, 313, 314	314, 315	316	316	316	316	316	316
1954 bm...	602, 603, 604	602, 603, 604	602, 603, 604	602, 603, 604	k316, 317, 318	318, 319	k316, 317, 318	318, 319	320	320	320	320	320	320
1955 bn...	612, 613, 614	612, 613, 614	612, 613, 614	612, 613, 614	k320, 321, 322	322, 323	k320, 321, 322	322, 323	324	324	324	324	324	324
1956 bo...	622, 623, 624	622, 623, 624	622, 623, 624	622, 623, 624	k324, 325, 326	326, 327	k324, 325, 326	326, 327	328	328	328	328	328	328
1957 bp...	632, 633, 634	632, 633, 634	632, 633, 634	632, 633, 634	k328, 329, 330	330, 331	k328, 329, 330	330, 331	332	332	332	332	332	332
1958 bq...	642, 643, 644	642, 643, 644	642, 643, 644	642, 643, 644	k332, 333, 334	334, 335	k332, 333, 334	334, 335	336	336	336	336	336	336
1959 br...	652, 653, 654	652, 653, 654	652, 653, 654	652, 653, 654	k336, 337, 338	338, 339	k336, 337, 338	338, 339	340	340	340	340	340	340
1960 bs...	662, 663, 664	662, 663, 664	662, 663, 664	662, 663, 664	k340, 341, 342	342, 343	k340, 341, 342	342, 343	344	344	344	344	344	344
1961 bt...	672, 673, 674	672, 673, 674	672, 673, 674	672, 673, 674	k344, 345, 346	346, 347	k344, 345, 346	346, 347	348	348	348	34		

From time to time reports have been published that are compilations of records for various areas, usually a single State or drainage basin. These reports contain records previously published (some of which have been revised), as well as some records not contained in the annual series of water-supply papers. The following table gives the numbers and titles of these reports, arranged in alphabetical order by States and drainage basins.

Reports containing compilation of discharge by States and drainage basins

Water-Supply Paper	Year ending	State or drainage basin and title
STATE		
107	1903	Alabama, Water powers of, with an appendix on stream measurements in Mississippi.
298	1912	California, Water resources of, part 1, Stream measurements in Sacramento River Basin.
299	1912	California, Water resources of, part 2, Stream measurements in San Joaquin River Basin.
300	1912	California, Water resources of, part 3, Stream measurements in the Great Basin and Pacific coast river basins.
447	1918	California, southern, Surface water supply of Pacific slope of.
597-E	1927	California, Surface water supply of Sacramento River Basin.
636-D	1927	California, Surface water supply of San Joaquin River Basin.
636-E	1927	California, southern, Surface water supply of Pacific slope basins in.
637-A	1927	California, Surface water supply of minor San Francisco Bay, northern Pacific, and Great basins in.
74	1900	Colorado, Water resources of.
197	1905	Georgia, Water resources of.
415	1915	Massachusetts, Surface waters of.
230	1906	Nebraska, Surface water supply of.
370	1910	Oregon, Surface water supply of.
850	1937	Texas, Summary of records of surface waters of.
424	1916	Vermont, Surface waters of.
492	1919	Washington, Summary of hydrometric data in.
870	1935	Washington, Summary of records of surface waters of.
469	1921	Wyoming, Surface waters of, and their utilization.
DRAINAGE BASIN		
395	1914	Colorado River (Ariz., Colo., N. Mex., Utah, Wyo.) and its utilization.
617	1927	Colorado River, upper (Colo., Utah), and its utilization.
517	1920	Great Salt Lake Basin, Water powers of.
618	1926	Green River (Utah, Wyo.) and its utilization.
198	1906	Kennebec River Basin (Maine), Water resources of.
491	1917	Milk River. (See St. Mary and Milk Rivers.)
536	1920	New-Kanawha River Basin (N. C., Va., W. Va.), Surface water supply of.
279	1909	Penobscot River Basin (Maine), Water resources of.
192	1906	Potomac River Basin (D. C., Md., W. Va.)
358	1913	Rio Grande Basin (Colo., N. Mex., Tex.), Water resources of, 1888-1913.
491	1917	St. Mary and Milk Rivers (Mont., Canada), Water supply of.
109	1904	Susquehanna River Basin (Pa., Md.), Hydrography of.

Records of discharge have been published also in State reports. Some of these are not contained in the publications of the Geological Survey or are revisions of records previously published in its water-supply papers. The following table contains a list of these reports.

State reports containing compilation of records of discharge

State	Year ending	Report	Issued by
Alabama....	1915	Bull. 17, Water powers of Alabama....	Geological Survey of Alabama.
Arkansas....	1928	Stream-gaging report 1.....	Arkansas Geological Survey.
Connecticut.	1926	Bull. 44, Water resources of Connecticut.	State Geological and Natural History Survey.
Do.....	1933 ^a	5th biennial report.....	Connecticut State Water Commission.
Georgia.....	1907	Bull. 16, Water powers of Georgia....	Geological Survey of Georgia.
Do.....	1920 ^b	Bull. 38, Water powers of Georgia....	Do.

a Includes records of monthly discharge in second-feet per square mile for years 1912-33.
b Includes records for years 1907-18.

State reports containing compilation of records of discharge--Continued

State	Year ending	Report	Issued by
Illinois....	1911	Water resources of Illinois.....	Rivers and Lakes Commission.
Do.....	1934	Stream-flow data of Illinois.....	Division of Waterways.
Indiana.....	1927	Pub. 72, Surface water supply of Indiana.	Department of Conservation.
Do.....	1930 ^c	Pub. 112, Surface water supply of Indiana.	Do.
Iowa.....	1932	Stream-flow records of Iowa.....	Iowa State Planning Board.
Kansas.....	1919	Surface waters of Kansas.....	Kansas Water Commission.
Do.....	1924 ^d	do.....	Do.
Do.....	1928 ^e	do.....	Kansas State Board of Agriculture.
Do.....	1935 ^f	Stream-flow data of Kansas.....	Do.
Do.....	1939 ^g	do.....	Do.
Kentucky.....	1920	Surface waters of Kentucky.....	Kentucky Geological Survey.
Minnesota....	1912	Water-resources investigation of Minnesota.	State Drainage Commission.
Missouri.....	1926	Vol. 20, 2d series, Water Resources of Missouri.	Missouri Geological Survey and Water Resources.
Do.....	1939 ^h	Vol. 26, 2d series, Surface waters of Missouri.	Do.
Nebraska.....	1914	1st hydrographic report.....	Bureau of Water Power, Irrigation, and Drainage.
Do.....	1928 ⁱ	2d hydrographic report.....	Do.
New Jersey....	1928	Bull. 33, Surface water supply of New Jersey.	Department of Conservation and Development.
Do.....	1934 ^j	Special Report 5, Surface Water Supply of New Jersey.	State Water Policy Commission.
New Mexico....	1925	Surface water supply of New Mexico...	Office of the State Engineer.
North Carolina.	1923	Bull. 34, Discharge records of North Carolina Streams.	Department of Conservation and Development.
Do.....	1936 ^k	Bull. 39, Discharge records of North Carolina streams.	Do.
Ohio.....	1921 ^l	Bull. 73, Ohio stream flow.....	Engineering Experiment Station, Ohio State University.
Do.....	1939 ^m	Bull. 200, Compilation of stream-flow records of Ohio.	Department of Agriculture, Division of Conservation and Natural Resources.
Oregon.....	1914	Bull. 4, Water resources of the State of Oregon.	Office of the State Engineer.
Do.....	1924 ⁿ	Bull. 7, Water resources of the State of Oregon.	Do.
Do.....	1930 ^o	Bull. 8, Water resources of the State of Oregon.	Do.
Do.....	1936 ^p	Bull. 9, Water resources of the State of Oregon.	Do.
Pennsylvania..	1911	Report of the Water Supply Commission of Pennsylvania.	Water Supply Commission of Pennsylvania.
Do.....	1932 ^q	Stream-flow records of Pennsylvania..	Department of Forests and Waters.
Tennessee....	1924	Bull. 34, Water resources of Tennessee.	Department of Education.
Do.....	1930 ^r	Bull. 40, Surface waters of Tennessee.	Do.
Utah.....	1905	5th biennial report, State Engineer..	Office of the State Engineer.
Virginia.....	1927	Bull. 31, Water resources of Virginia.	Conservation and Development Commission.
Washington....	1933	Bull. 5, Monthly and yearly summaries of hydrometric data.	Department of Conservation and Development.
Wisconsin....	1914	1st report of Railroad Commission of Wisconsin to Legislature on water powers.	Railroad Commission of Wisconsin.
Do.....	1923 ^s	2d report of Railroad Commission of Wisconsin to Legislature on water powers.	Do.

c Includes records for years 1927-30.

d Includes records for years 1919-24.

e Includes records for years 1924-28.

f Includes records for years 1928-35.

g Includes records for years 1935-39.

h Includes records for years 1927-39.

i Includes records for years 1914-28.

j Includes records for years 1928-34.

k Includes records for years 1889-1936;

records of daily and monthly discharge are not included.

l Includes all available records prior to 1921.

m Includes records for years 1902-39.

n Includes records for years 1914-24.

o Includes records for years 1924-30.

p Includes records for years 1930-36.

q Includes records for years 1928-32.

r Includes average weekly discharge for years 1920-30.

s Includes records for years 1914-23.

Note.- In addition to the records contained in the reports listed above, the following States have issued annual or biennial reports in which are contained records of discharge: California, Colorado, Connecticut, Idaho, Indiana, Missouri, Montana, Nebraska, New Mexico, New York (also New York City Board of Water Supply), North Dakota, Oregon, Pennsylvania, Utah, Washington, and Wyoming.

The reports listed in the foregoing tables contain the customary records of discharge collected during the systematic operation of gaging stations. Detailed information on the stage and discharge of many streams during major floods has been included in special reports on these floods published by the Geological Survey. The more recent of these reports also contain other pertinent hydrologic information and analyses and compilations of data relating to earlier noteworthy floods. The following list gives the numbers and titles of these reports.

Water-Supply Paper	Title
88	The Passaic flood of 1902.
92	The Passaic flood of 1903.
96	Destructive floods in the United States in 1903.
147	Destructive floods in the United States in 1904.
162	Destructive floods in the United States in 1905.
334	The Ohio Valley flood of March-April 1913.
426	Southern California floods of January 1916.
487	The Arkansas River flood of June 3-5, 1921.
488	The floods in central Texas in September 1921.
520-G	Some floods in the Rocky Mountain region.
636-C	The New England flood of November 1927.
771	Floods in the United States, magnitude and frequency.
773-E	The New York State flood of July 1935.
796-B	Flood on Republican and Kansas Rivers, May and June 1935.
796-C	Flood in La Canada Valley, California, January 1, 1934.
798	The floods of March 1936, Part 1, New England Rivers.
799	The floods of March 1936, Part 2, Hudson River to Susquehanna River region.
800	The floods of March 1936, Part 3, Potomac, James and upper Ohio Rivers.
816	Major Texas floods of 1936.
836-A	Stages and flood discharges of the Connecticut River at Hartford, Conn.
838	Floods of Ohio and Mississippi Rivers, January-February 1937.
842	Floods in Canadian and Pecos River Basins of New Mexico, May and June 1937.
843	Floods of December 1937 in northern California.
847	Maximum discharges at stream-measurement stations through September 1938.
867	Hurricane floods of September 1938.
869	Flood of August 1935 in Muskingum River Basin, Ohio.

RECORDS OF DISCHARGE COLLECTED BY AGENCIES OTHER THAN THE GEOLOGICAL SURVEY

The following table contains a list of gaging stations for the area covered by this report at which records of daily discharge were collected during the water year October 1939 to September 1940 by agencies other than the Geological Survey. The records for these stations are not contained in publications of the Geological Survey, nor have they been published elsewhere, but they are available in the files of the organizations named.

Records of daily discharge collected by agencies other than the Geological Survey

Stream	Location	Period	Collected by
Ash Creek.....	Rainbow Bridge, near New Harmony, Utah.	1939-40	Bureau of Reclamation.
Ashley Creek.....	Below Dry Fork, near Vernal, Utah.....	1939-40	I.
Big (Kolob) Creek....	Kolob Mountain, near Virgin, Utah.....	1939-40	I.
Boulder Creek.....	Near proposed diversion, 9 miles east of Fairview, Utah.	1938-40	I.
Brush Creek.....	Buckle Ranch, near Jensen, Utah.....	1939-40	I.
Do.....	Tyzach Ranch, near Vernal, Utah.....	1939-40	I.
Dry Fork.....	Above Sinks, near Vernal, Utah.....	1939-40	I.
Gooseberry Creek.....	Gooseberry upper dam site, near Fairview, Utah.	1928-29, 1931, 1936-40	Bureau of Reclamation and Water Storage Commission.
Do.....	At Mammoth dam site near Scofield, Utah.*	1940	Bureau of Reclamation.
Moody Creek.....	Lower dam site, near Central, Utah.....	1939-40	I.
Santa Clara Creek....	Below Winsor Dam, near Santa Clara, Utah.	1939-40	I.
Do.....	Near Gunlock, Utah.....	1939-40	Do.
Do.....	Near Central, Utah.....	1939-40	I.
Do.....	Pine Valley, Utah.....	1939-40	I.
Sheep Creek (North Fork).	Above Lucerne Valley canal, near Manila, Utah.	1939-40	Do.
Do.....	Below Lucerne Valley canal, near Manila, Utah.	1939-40	Do.
Sheep Creek (South Fork).	Above Lucerne Valley canal, near Manila, Utah.	1939-40	Do.
White River.....	Below Left Fork, 1 mile east of Soldier Summit, Utah.	1938-40	Do.
White River (Left Fork).	Above forks, near Soldier Summit, Utah.	1938-40	Do.

*Former Geological Survey station.

Note.—The Soil Conservation Service began in 1936 to make studies of run-off from four areas comprising less than 3,000 acres each, seven areas comprising between 3,000 and 10,000 acres each, and three areas comprising between 10,000 and 50,000 acres each in the vicinity of Mexican Springs, N. Mex. The records are in the files of that organization.

The work in the several States was done under cooperative agreements with the organizations listed below:

Arizona (all stations except Virgin River at Littlefield): Office of the State Water Commission, J. C. Wanslee, commissioner; Salt River Valley Water Users' Association (for certain stations in Salt River Basin); Metropolitan Water District of Southern California (for certain stations on Williams River and for Colorado River below Boulder Dam); and Maricopa County Water District No. 1 (for stations on Agua Fria River).

Colorado: Office of the State engineer, M. C. Hinderlider.

New Mexico: Office of the State engineer, T. M. McClure; and the New Mexico Interstate Stream Commission, T. M. McClure, Secretary.

Utah: Office of the State engineer, T. H. Humphreys.

Wyoming: Office of the State engineer, L. C. Bishop.

Funds were furnished by the Corps of Engineers, U. S. Army, for the construction and maintenance of eight gaging stations in Arizona and one in New Mexico.

Assistance in collecting the records was rendered also by the following municipalities, organizations, corporations, and individuals:

Arizona: Gila water commissioner, Charles A. Firth, appointed by the United States District Court.

Colorado: Denver Board of Water Commissioners, Bureau of Reclamation, and Uncompahgre Valley Water Users' Association.

New Mexico: Office of Indian Affairs.

Utah: National Park Service, Bureau of Reclamation, and Office of Indian Affairs.

DIVISION OF WORK

The stream-gaging work was conducted by the water resources branch of the Geological Survey, Glenn L. Parker, chief hydraulic engineer, Carl G. Paulsen, assistant chief hydraulic engineer, and Rudolph G. Kasel, chief of the division of surface waters. The data for the stations in the several States were collected and prepared for publication under supervision of district engineers as follows: In Arizona (except for Virgin River at Littlefield), in California, in Nevada, and for Puerco River at Gallup, N. Mex., and Gila River below Blue Creek, near Virden, N. Mex., J. H. Gardiner; in Colorado (except for Los Pinos River at Ignacio), Robert Follansbee, the work being done in collaboration with M. C. Hinderlider, State engineer, and L. T. Burgess, State chief hydrographer; in New Mexico (except for the stations named above) and for Los Pinos River at Ignacio, Colo., Berkeley Johnson; in Utah (except for the stations named below) and for Virgin River at Littlefield, Ariz., A. B. Purton; in Wyoming and for Green River near Linwood, Utah, and White River near Watson, Utah, Robert Follansbee.

The records were reviewed and the manuscript prepared for publication under the direction of B. J. Peterson, engineer in charge, and M. C. Boyer, associate engineer, section of reports.

COLORADO RIVER BASIN

COLORADO RIVER MAIN STEM

Colorado River near Grand Lake, Colo.

Location.- Water-stage recorder, lat. 40°14', long. 105°51', in sec. 13, T. 3 N., R. 76 W., half a mile upstream from Grand Lake outlet and 3 miles south of town of Grand Lake.

Drainage area.- 101 square miles.

Records available.- July 1904 to September 1909, September 1910 to September 1918, and May 1934 to September 1940.

Average discharge.- 19 years, 125 second-feet.

Extremes.- Maximum discharge during year, 406 second-feet June 3 (gage height, 3.79 feet); minimum daily, 10 second-feet Dec. 19-22, 24, 26-28, 30, 31, Jan. 1.
1904-9, 1910-18, 1934-40: Maximum discharge, 1,840 second-feet June 15, 16, 1918 (gage height, 7.0 feet, site and datum then in use); minimum, 1.6 second-feet June 17, 1934 (gage height, 1.32 feet).

Remarks.- Records excellent except those for periods of ice effect, which are fair. Diversions above station for irrigation. Transmountain diversion by Grand River ditch through La Poudre Pass to Cache la Poudre River Basin.

Rating table, water year 1939-40, except periods of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Mar. 9, 10, Mar. 17 to Apr. 17)

1.7	8	2.0	23	2.6	96	3.4	280
1.8	12	2.2	40	3.1	194	3.7	375
1.9	17	2.3	50	3.2	220		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	28	28	15	10	12	13	25	47	331	78	16	39
2	28	26	16	11	12	14	24	58	361	103	14	38
3	27	24	16	11	12	14	28	85	364	82	13	35
4	31	22	14	11	12	14	28	121	328	70	12	40
5	30	22	13	11	12	13	29	152	325	61	12	35
6	29	24	13	12	12	13	25	158	325	67	12	31
7	28	23	14	11	12	13	23	172	256	54	12	31
8	29	21	14	11	12	14	26	181	229	49	12	30
9	36	21	14	12	12	14	18	181	192	44	12	37
10	38	19	13	12	12	14	20	210	170	45	16	46
11	40	19	12	11	12	14	19	265	170	37	21	40
12	31	18	12	12	12	13	26	298	185	32	20	36
13	30	18	12	*12	12	13	22	316	192	25	20	37
14	29	17	12	12	11	13	31	232	220	23	20	40
15	29	17	12	12	*13	13	46	204	241	21	19	39
16	31	17	12	12	12	14	49	259	220	20	19	34
17	32	17	11	11	11	16	50	250	217	21	20	32
18	29	16	11	12	11	16	58	204	197	36	18	32
19	25	16	10	12	12	22	78	190	181	44	14	33
20	24	16	10	12	12	15	94	207	181	31	16	32
21	23	16	10	12	12	14	105	210	166	29	19	32
22	22	16	10	12	12	18	107	176	160	28	19	34
23	22	16	11	13	12	19	94	162	142	22	18	33
24	22	15	10	13	12	20	103	160	123	19	26	31
25	23	15	11	13	12	21	119	181	107	19	43	32
26	23	15	10	12	13	19	121	202	101	17	58	35
27	24	16	10	11	13	19	119	256	93	16	88	45
28	24	16	10	12	13	19	96	238	83	16	80	42
29	22	16	12	12	12	19	77	226	77	16	61	42
30	22	15	10	12	-	20	53	238	75	16	49	60
31	24	-	10	12	-	21	-	283	-	18	44	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	855	40	22	27.6	1,700
November.....	557	28	15	18.6	1,100
December.....	370	16	10	11.9	734
Calendar year 1939.....	25,855.4	510	4.8	71.1	51,430
January.....	364	13	10	11.7	722
February.....	349	13	11	12.0	692
March.....	494	22	13	15.9	980
April.....	1,714	121	18	57.1	3,400
May.....	6,122	316	47	197	12,140
June.....	6,012	364	75	200	11,920
July.....	1,157	103	16	37.3	2,290
August.....	825	68	12	26.5	1,630
September.....	1,103	60	30	36.8	2,190
Water year 1939-40.....	19,920	364	10	54.4	39,500

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Oct. 30, 31, Nov. 9-30, Dec. 3-20, 22, 24, 27, 28, Jan. 7, 8, 11-23, Feb. 14-27, Mar. 3-5, 7, 8, 11-16.

Colorado River near Granby, Colo.

Location.- Water-stage recorder, lat. 40°07', long. 105°54', in sec. 22, T. 2 N., R. 76 W., 1½ miles upstream from Willow Creek and 4 miles northeast of Granby.

Drainage area.- 322 square miles.

Records available.- June 1908 to September 1911, May 1934 to September 1940.

Extremes.- Maximum discharge during year, 1,860 second-feet June 2 (gage height, 3.68 feet); minimum daily discharge, 29 second-feet Jan. 19, 22, Feb. 17.

1908-11, 1934-40: Maximum discharge, 4,100 second-feet June 20, 1909 (gage height, 5.5 feet, datum then in use); minimum not determined, occurred during period of incomplete record in winter.

Remarks.- Records excellent except those for period Aug. 15 to Sept. 30, which are good, and those for periods of ice effect, which are fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	89	74	60	42	38	43	110	195	1,670	524	160	210
2	89	74	62	40	36	42	110	191	1,800	623	140	184
3	84	74	57	42	37	40	94	226	1,780	616	128	166
4	87	70	58	43	37	39	86	304	1,560	554	123	163
5	92	70	54	41	35	41	90	458	1,560	482	120	153
6	92	76	51	38	35	43	94	554	1,570	482	114	137
7	89	74	*53	36	36	42	82	651	1,260	464	114	128
8	96	72	54	38	36	41	75	679	1,080	418	112	126
9	120	72	54	35	36	42	74	707	912	368	109	144
10	123	64	53	37	36	44	72	856	784	337	104	163
11	120	57	50	35	35	44	70	1,030	777	318	104	160
12	114	55	47	*33	34	40	70	1,140	920	314	101	147
13	109	55	46	33	32	37	80	1,210	1,000	300	96	137
14	101	54	47	33	30	38	106	1,000	1,240	277	96	147
15	99	56	49	31	30	37	134	880	1,440	260	92	140
16	96	56	50	32	*31	39	137	1,000	1,320	251	89	126
17	94	56	48	33	29	42	120	1,100	1,230	264	87	120
18	89	54	46	30	30	44	134	1,010	1,120	364	87	117
19	87	52	43	29	32	44	170	888	1,040	482	80	123
20	82	55	44	32	32	48	198	904	1,060	406	87	126
21	80	55	43	32	32	50	198	947	1,010	368	99	131
22	78	55	41	29	32	48	222	770	938	337	99	137
23	74	55	41	30	35	47	210	686	864	300	92	137
24	72	54	38	32	36	*45	238	686	798	273	104	131
25	72	53	39	34	37	58	260	777	721	242	153	128
26	72	56	39	34	39	78	277	896	679	218	222	131
27	74	56	38	34	40	70	291	1,110	616	198	337	150
28	74	55	35	35	40	65	282	1,150	588	195	390	160
29	74	54	37	37	42	62	273	1,180	574	180	342	166
30	72	53	40	35	-	66	230	1,260	536	177	286	195
31	74	-	44	36	-	90	-	1,420	-	170	242	-
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....							2,768	123	72	89.3	5,490	
November.....							1,816	76	52	60.5	3,600	
December.....							1,461	62	35	47.1	2,900	
Calendar year 1939.....							100,962	1,980	35	277	200,200	
January.....							1,081	43	29	34.9	2,140	
February.....							1,010	42	29	34.8	2,000	
March.....							1,507	90	37	48.6	2,990	
April.....							4,590	291	70	153	9,100	
May.....							25,865	1,420	191	834	51,300	
June.....							32,407	1,800	536	1,080	64,280	
July.....							10,772	623	170	347	21,570	
August.....							4,509	390	80	145	8,840	
September.....							4,383	210	117	146	8,690	
Water year 1939-40.....							92,169	1,800	29	252	182,800	

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Oct. 30, 31, Nov. 10-15, Nov. 18 to Apr. 5.

Colorado River at Hot Sulphur Springs, Colo.

Location.- Water-stage recorder, lat. 40°05', long. 106°05', in sec. 1, T. 1 N., R. 78 W., 1 mile east of Hot Sulphur Springs and 3 miles upstream from Beaver Creek.

Drainage area.- 782 square miles.

Records available.- July 1904 to September 1909, September 1910 to September 1924, October 1925 to September 1928, and October 1933 to September 1940 in reports of Geological Survey. July 1904 to September 1909, September 1910 to September 1924, and October 1925 to September 1940 in reports of State engineer.

Average discharge.- 34 years (1904-9, 1910-24, 1925-40), 704 second-feet.

Extremes.- Maximum discharge during year, 2,820 second-feet June 2 (gage height, 3.29 feet); minimum daily, 69 second-feet Jan. 19.

1904-9, 1910-24, 1925-40: Maximum discharge, 10,300 second-feet June 15, 1921 (gage height, 8.7 feet, site and datum then in use); minimum not determined, occurred during period of no record in winter.

Remarks.- Records good except those for period of ice effect, which are fair. Diversions above station for irrigation. Transmountain diversion through Pioneer bore of Moffat tunnel from Fraser River Basin to South Platte River Basin. Total flow diverted during water year 1939-40 was 29,390 acre-feet (see p. 39 for record by months). Transmountain diversion by Grand River ditch through La Poudre Pass to Cache la Poudre River Basin.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	143	136	103	94	89	120	300	456	2,440	690	233	268
2	140	143	106	91	87	118	291	450	2,640	646	208	241
3	136	136	103	94	90	116	200	528	2,620	655	200	220
4	143	124	99	96	93	118	204	688	2,220	610	188	229
5	158	130	96	96	90	122	225	930	2,250	696	184	216
6	154	143	92	85	90	126	241	1,070	2,300	712	172	192
7	150	140	95	82	92	124	192	1,180	1,950	648	176	180
8	150	127	*96	85	94	122	168	1,210	1,610	605	176	176
9	158	127	100	80	96	125	200	1,210	1,340	522	172	186
10	196	112	100	81	96	130	184	1,420	1,140	468	161	229
11	198	103	98	*78	97	135	168	1,660	1,090	456	172	229
12	180	109	94	75	97	130	150	1,820	1,210	456	158	204
13	168	109	91	72	95	124	188	1,950	1,300	420	140	196
14	165	109	92	75	93	124	268	1,690	1,600	400	133	204
15	158	109	94	73	90	128	370	1,500	1,820	360	133	200
16	154	103	95	72	90	132	370	1,610	1,770	360	124	192
17	150	98	94	75	*92	140	286	1,770	1,630	395	124	184
18	147	96	92	73	90	148	315	1,720	1,500	612	118	180
19	143	95	88	69	*90	152	410	1,490	1,380	672	115	192
20	133	100	86	72	94	160	498	1,480	1,370	540	130	220
21	133	102	87	75	94	165	522	1,680	1,420	468	150	208
22	130	100	84	73	94	160	522	1,430	1,400	435	172	216
23	127	98	83	71	94	160	504	1,220	1,260	385	158	212
24	124	96	85	78	100	200	492	1,190	1,070	340	165	208
25	121	95	82	83	105	*257	510	1,250	950	310	241	204
26	121	97	83	84	109	300	558	1,430	891	277	305	220
27	130	99	83	83	112	254	598	1,740	819	259	405	268
28	115	97	77	84	114	208	612	1,820	747	259	468	272
29	127	96	81	86	120	184	570	1,810	712	250	420	272
30	109	95	88	83	-	172	504	1,900	672	250	355	305
31	118	-	94	86	-	220	-	2,090	-	246	305	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						4,499	196	109	145	8,920		
November.....						5,324	143	95	111	6,590		
December.....						2,641	106	77	91.6	5,640		
Calendar year 1939.....						175,042	3,470	77	480	347,200		
January.....						2,507	96	69	80.9	4,970		
February.....						2,787	120	87	96.1	5,530		
March.....						4,874	300	116	157	9,670		
April.....						10,820	612	150	354	21,060		
May.....						43,392	2,090	450	1,400	86,970		
June.....						45,041	2,640	672	1,501	89,340		
July.....						14,992	855	246	484	29,740		
August.....						6,361	468	115	205	12,620		
September.....						6,523	305	176	217	12,940		
Water year 1939-40.....						147,761	2,640	69	404	293,100		

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 16 to Mar. 25.

Colorado River at Glenwood Springs, Colo.

Location.- Water-stage recorder, lat. $39^{\circ}33'$, long. $107^{\circ}19'$, in sec. 9, T. 6 S., R. 89 W., at Glenwood Springs, half a mile upstream from Roaring Fork. Datum of gage is 5,720.71 feet above mean sea level.

Drainage area.- 4,560 square miles.

Records available.- January 1900 to September 1940. May to July 1999, at site just above Roaring Fork.

Average discharge.- 41 years (1899-1940), 2,985 second-feet.

Extremes.- Maximum discharge during year, 11,100 second-feet June 3 (gage height, 7.90 feet); minimum daily, 369 second-feet Dec. 28.
1900-1940: Maximum discharge, 30,100 second-feet June 14, 15, 1918 (gage height, 12.55 feet); minimum daily, 286 second-feet Jan. 22, 1935.

Remarks.- Records excellent except those for periods Dec. 25 to Feb. 29 and July 20 to Aug. 31, which are good. Diversions above station for irrigation. During low-water period, flow is regulated by Shoshone power plant, 6 miles above station.

Rating table, water year 1939-40 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Jan. 3 to Feb. 27, July 20 to Aug. 28)

2.4	338	3.7	1,190	6.0	5,220
2.7	475	4.1	1,640	7.8	10,760
3.1	700	4.6	2,380		
3.4	915	5.4	3,860		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	821	780	618	673	598	821	983	2,090	9,640	2,990	958	1,320
2	932	802	673	640	616	799	1,130	1,960	10,300	3,060	1,000	1,210
3	907	765	638	676	700	760	1,280	2,160	10,600	3,310	1,000	1,020
4	859	787	672	664	646	741	1,310	2,670	9,960	3,380	932	958
5	875	951	730	616	652	713	1,070	3,860	9,000	3,360	859	924
6	932	805	662	628	628	592	1,050	3,820	8,490	3,030	828	932
7	915	831	620	592	652	709	1,160	4,190	7,820	2,790	786	940
8	867	864	631	552	652	667	1,110	4,410	6,720	2,670	800	895
9	1,020	862	632	574	604	702	1,000	4,570	5,970	2,430	859	802
10	1,000	841	715	634	592	759	1,000	4,980	5,220	2,250	664	912
11	949	675	638	652	598	750	966	5,820	4,640	2,090	758	710
12	1,030	910	709	574	616	741	924	6,840	4,670	1,910	845	996
13	1,090	750	686	658	547	764	835	7,150	5,120	1,830	746	1,060
14	1,050	812	580	558	580	561	867	7,910	5,730	1,740	758	945
15	1,050	766	598	542	569	611	983	7,140	6,300	1,670	835	975
16	901	766	520	449	670	523	1,200	7,020	6,270	1,620	700	935
17	903	736	663	506	545	737	1,400	7,500	6,060	1,580	634	932
18	911	654	680	624	547	691	1,430	7,350	6,030	1,700	652	836
19	796	627	508	456	580	759	1,400	6,750	5,760	2,060	765	943
20	892	636	448	488	604	645	1,420	6,390	5,460	2,400	908	994
21	832	574	514	552	564	719	1,830	6,270	5,650	2,090	542	1,150
22	1,040	664	554	505	592	763	2,120	6,300	5,480	1,800	915	1,100
23	691	708	547	467	616	744	2,170	5,700	5,270	1,650	1,000	949
24	794	633	525	474	688	941	2,140	5,610	4,740	1,540	1,020	1,040
25	761	717	490	598	732	945	2,200	5,680	4,320	1,430	983	1,080
26	750	602	513	569	746	1,060	2,400	6,120	3,940	1,340	1,070	1,070
27	766	692	385	670	752	1,060	2,580	6,780	3,720	1,290	1,340	1,110
28	873	775	369	646	765	1,120	2,690	7,380	3,480	1,190	1,600	1,290
29	861	633	406	640	758	1,120	2,600	7,720	3,270	1,100	1,590	1,330
30	728	709	495	610	-	1,020	2,350	7,940	3,120	1,120	1,540	1,290
31	778	-	554	616	-	983	-	8,550	-	983	1,480	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	27,564	1,090	691	869	54,670
November.....	22,327	951	574	744	44,280
December.....	17,971	730	369	560	35,640
Calendar year 1939	850,690	12,800	369	2,331	1,687,000
January.....	18,083	676	436	563	35,870
February.....	18,409	765	545	635	36,510
March.....	24,520	1,120	523	751	48,630
April.....	45,598	2,690	835	1,520	90,440
May.....	179,130	8,550	1,960	5,778	355,300
June.....	182,740	10,600	3,120	6,051	362,500
July.....	63,403	3,380	983	2,045	126,800
August.....	29,265	1,590	542	944	58,050
September.....	30,748	1,330	710	1,025	60,990
Water year 1939-40	659,758	10,600	369	1,863	1,309,000

Colorado River near Cameo, Colo.

Location.- Water-stage recorder, lat. 39°13', long. 108°15', in sec. 6, T. 10 S., R. 97 W., 3.4 miles upstream from Plateau Creek and 6.7 miles northeast of Cameo.

Drainage area.- 8,055 square miles.

Records available.- October 1933 to September 1940.

Extremes.- Maximum discharge during year, 16,600 second-feet June 3 (gage height, 7.82 feet); minimum daily, 700 second-feet Dec. 29.

1933-40: Maximum discharge, 36,000 second-feet June 16, 1935 (gage height, 10.91 feet); minimum daily, that of Dec. 29, 1939.

Remarks.- Records excellent except those for period Nov. 11 to Feb. 10, which are good. Many diversions above station for irrigation.

Rating tables, water year 1939-40, except periods of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Nov. 12 to Dec. 17, Dec. 20-25)

Oct. 1 to Jan. 31 Feb. 1 to Sept. 30

1.0	650	1.3	930
1.2	800	2.1	1,770
1.4	980	2.6	2,400
1.8	1,390	4.0	4,660
2.1	1,750	5.0	6,920
		6.5	11,150
		7.7	16,100

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,620	1,370	1,160	1,000	1,030	1,250	1,520	3,500	14,100	4,170	1,410	1,370
2	1,550	1,410	1,130	1,100	1,060	1,290	1,580	3,190	15,300	4,090	1,360	1,690
3	1,600	1,470	1,120	1,090	1,100	1,250	1,720	3,210	15,700	4,020	1,340	1,560
4	1,600	1,410	1,070	1,100	1,120	1,180	1,750	3,960	15,100	4,120	1,340	1,440
5	1,600	1,370	1,120	1,100	1,060	1,150	1,700	5,190	13,600	4,100	1,290	1,410
6	1,580	1,520	1,150	1,100	1,000	1,180	1,600	6,150	12,400	3,910	1,240	1,360
7	1,630	1,410	1,030	1,080	950	1,050	1,630	8,610	11,400	3,560	1,210	1,350
8	1,680	1,460	1,060	1,030	1,000	1,140	1,870	7,080	10,100	3,370	1,130	1,340
9	1,630	1,470	1,070	980	1,000	1,120	1,590	7,280	8,980	3,160	1,170	1,260
10	1,710	1,440	1,070	1,090	970	1,110	1,540	8,120	7,960	2,940	1,180	1,230
11	1,700	1,460	1,130	1,140	980	1,200	1,470	9,230	7,020	2,780	980	1,270
12	1,650	1,310	1,070	1,180	1,020	1,220	1,450	10,400	6,780	2,580	1,050	1,110
13	1,720	1,420	1,140	1,080	1,010	1,170	1,350	11,700	7,490	2,420	1,110	1,430
14	1,750	1,340	1,030	1,110	970	1,130	1,310	12,500	8,440	2,280	1,060	1,510
15	1,710	1,340	1,000	980	1,060	980	1,430	11,500	9,280	2,180	1,060	1,500
16	1,660	1,310	1,020	860	1,070	1,070	1,680	10,800	9,170	2,110	1,130	1,520
17	1,560	1,280	962	920	1,090	1,060	1,930	11,600	8,750	2,070	1,010	1,480
18	1,500	1,280	1,020	1,060	940	1,200	2,000	11,400	8,840	2,130	940	1,630
19	1,570	1,210	1,060	980	970	1,150	2,000	10,100	8,610	2,230	970	1,750
20	1,420	1,150	944	890	1,050	1,240	2,090	9,480	8,190	2,850	1,090	1,910
21	1,460	1,160	854	960	1,030	1,130	2,390	9,340	7,960	2,700	1,180	1,890
22	1,430	1,140	1,060	1,030	1,020	1,210	3,000	9,030	7,990	2,370	950	2,050
23	1,600	1,160	1,080	920	1,090	1,230	3,260	8,720	7,700	2,130	1,270	2,160
24	1,320	1,230	980	830	1,280	1,270	3,450	8,390	7,080	2,030	1,580	1,970
25	1,390	1,180	917	880	1,280	1,460	3,820	8,780	6,320	1,890	1,480	2,000
26	1,480	1,210	900	960	1,430	1,580	3,860	9,260	5,720	1,770	1,720	1,990
27	1,480	1,150	930	960	1,360	1,730	3,510	9,520	5,260	1,690	1,730	1,960
28	1,390	1,230	720	1,100	1,320	1,870	4,340	10,600	4,680	1,690	2,020	2,030
29	1,380	1,240	700	1,080	1,280	1,760	4,250	11,400	4,430	1,570	2,120	3,000
30	1,440	1,140	820	1,060	-	1,660	3,910	12,000	4,320	1,500	2,090	3,060
31	1,340	-	1,080	1,040	-	1,540	-	12,800	-	1,470	1,990	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	48,160	1,750	1,320	1,554	85,520
November.....	39,270	1,520	1,140	1,309	77,390
December.....	31,497	1,160	700	1,016	62,470
Calendar year 1939.....	1,316,777	19,100	700	3,608	2,612,000
January.....	31,690	1,180	830	1,022	62,860
February.....	31,660	1,430	940	1,038	62,600
March.....	39,560	1,370	950	1,276	75,450
April.....	69,200	4,340	1,310	2,307	137,300
May.....	273,140	12,800	3,190	8,811	541,800
June.....	268,870	15,700	4,320	8,962	533,300
July.....	81,690	4,170	1,470	2,632	161,800
August.....	41,300	2,120	940	1,332	81,920
September.....	51,730	3,060	1,110	1,724	102,600
Water year 1939-40.....	1,007,557	15,700	700	2,753	1,999,000

Note.- Stage-discharge relation affected by ice Dec. 18, 19, Dec. 26 to Jan. 5, Jan. 15 to Feb. 10.

Colorado River near Cisco, Utah

Location.- Water-stage recorder, lat. 38°49', long. 109°18', in NW¼ sec. 17, T. 23 S., R. 24 E., 1 mile downstream from Dolores River and 11 miles south of Cisco.

Drainage area.- 24,100 square miles.

Records available.- November 1914 to September 1917, October 1922 to September 1940. October 1913 to November 1914, at site near Moab, 30 miles downstream, published as Colorado River near Moab, Utah; records equivalent.

Average discharge.- 22 years (1913-17, 1922-40), 8,231 second-feet.

Extremes.- Maximum discharge during year, 25,390 second-feet May 14 (gauge height, 9.37 feet); minimum, 672 second-feet Aug. 19, 20 (gauge height, 0.70 foot).
1914-17, 1922-40: Maximum discharge, 76,800 second-feet June 19, 1917 (gauge height, 19.7 feet); minimum discharge recorded, 558 second-feet July 21, 1934 (gauge height, 0.44 foot).

Remarks.- Records excellent. Diversions above station for irrigation and power.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,590	2,270	2,420	1,840	2,420	2,850	3,680	10,300	20,100	4,580	1,460	2,420
2	2,590	2,270	2,420	2,060	2,590	2,680	3,780	9,660	21,700	4,580	1,320	2,200
3	2,500	2,500	2,230	2,400	2,850	2,680	3,970	9,360	22,500	4,370	1,200	2,040
4	2,590	2,500	2,370	2,420	2,760	2,590	3,780	9,660	22,500	4,170	1,200	2,040
5	2,680	2,590	2,220	2,420	2,760	2,500	3,400	11,900	20,500	4,270	1,200	1,740
6	2,680	2,590	2,270	2,420	2,500	2,420	3,490	14,700	18,900	4,170	1,200	1,650
7	2,760	2,680	2,320	2,320	2,370	2,370	3,400	15,100	17,300	3,870	1,220	1,680
8	2,420	2,680	2,270	2,250	2,300	2,350	3,680	18,200	15,400	3,490	1,080	1,480
9	2,680	2,680	2,170	2,190	2,280	2,390	3,680	16,600	14,000	3,210	970	1,380
10	2,500	2,760	2,200	2,110	2,190	2,300	3,490	17,300	12,600	3,630	913	1,410
11	2,590	2,680	2,230	2,190	2,110	2,340	3,490	19,700	11,700	2,760	922	1,390
12	2,590	2,760	2,320	2,390	2,140	2,420	3,210	22,100	10,800	2,590	895	1,440
13	2,500	2,590	2,200	2,590	2,150	2,500	3,210	23,300	9,960	2,350	841	1,430
14	2,590	2,760	2,120	2,400	2,110	2,400	3,300	25,000	10,600	2,190	796	1,460
15	2,590	2,590	2,190	2,120	2,140	2,270	3,580	24,100	11,600	2,060	796	1,810
16	2,500	2,680	1,920	1,780	2,150	2,190	4,270	22,500	12,200	2,090	744	1,950
17	2,500	2,590	1,820	1,710	2,190	2,120	5,320	21,300	11,900	4,470	712	2,120
18	2,300	2,680	1,800	1,600	2,140	2,200	5,320	22,500	11,200	2,940	728	2,500
19	2,270	2,320	1,980	1,840	2,030	2,370	5,320	21,300	11,200	2,680	704	3,030
20	2,220	2,350	2,140	1,750	1,920	2,390	5,760	18,500	10,600	2,680	712	3,580
21	2,190	2,390	1,980	1,780	2,120	2,420	7,430	16,600	9,960	2,850	980	3,580
22	2,110	2,300	1,670	1,930	2,060	2,370	9,660	15,800	9,360	3,030	1,080	4,270
23	2,120	2,320	1,770	1,960	2,030	2,500	10,900	15,100	9,360	2,680	1,150	3,970
24	2,120	2,420	1,860	1,750	2,070	2,680	10,900	14,300	8,780	2,420	1,200	3,970
25	2,040	2,500	2,110	1,900	2,420	2,850	11,600	14,300	7,950	2,200	1,900	3,870
26	1,950	2,420	1,980	1,990	2,760	3,300	12,200	15,100	7,180	2,030	3,120	3,870
27	2,190	2,500	1,780	2,200	3,400	3,580	11,900	15,400	6,340	1,720	3,210	3,780
28	2,370	2,420	1,710	2,350	3,300	4,370	12,900	16,600	5,880	1,540	2,850	3,680
29	2,270	2,590	1,750	2,500	3,030	4,690	12,200	17,700	5,440	1,590	2,940	9,430
30	2,350	2,590	1,460	2,500	-	4,580	10,600	18,100	5,000	1,600	2,850	7,560
31	2,270	-	1,670	2,390	-	3,970	-	18,500	-	1,580	2,680	-
Month	Second-foot-days					Maximum		Minimum		Mean		Run-off in acre-feet
October.....	74,620					2,760		1,950		2,477		148,000
November.....	75,970					2,760		2,270		2,532		150,700
December.....	65,350					2,420		1,460		2,044		125,700
Calendar year 1939.....	2,058,654					25,000		904		5,640		4,084,000
January.....	66,050					2,590		1,600		2,131		131,000
February.....	69,290					3,400		1,920		2,359		137,400
March.....	85,840					4,860		2,120		2,759		170,300
April.....	199,420					12,900		3,210		6,314		375,700
May.....	528,680					25,000		9,360		17,050		1,048,000
June.....	372,510					22,500		5,000		12,450		738,900
July.....	90,390					4,580		1,540		2,916		179,300
August.....	43,573					3,210		704		1,466		86,400
September.....	86,630					9,430		1,380		2,868		171,800
Water year 1939-40.....	1,746,223					25,000		704		4,771		3,463,000

a No gage-height record; discharge interpolated.

Colorado River at Lees Ferry, Ariz.

Location.— Water-stage recorder, lat. 36°51'45", long. 111°36'15", in NE¼ sec. 13, T. 40 N., R. 7 E., at head of Marble Gorge, at Lees Ferry, just upstream from Paria River, 28 miles downstream from Utah-Arizona State line, 79 miles downstream from San Juan River, and 355 miles upstream from Boulder Dam. Datum of gage is 3,106.16 feet (general adjustment of 1929) or 3,106.35 feet (general adjustment of 1912) above mean sea level.

Drainage area.— 107,900 square miles.

Records available.— June 1921 to September 1940.

Average discharge.— 19 years, 17,120 second-feet.

Extremes.— Maximum discharge during year, 47,200 second-feet May 18 (gage height, 13.54 feet); minimum, 1,650 second-feet Aug. 21 (gage height, 5.04 feet).

1921-40: Maximum discharge, 220,000 second-feet June 18, 1921 (gage height, 26.5 feet, from floodmarks), from rating curve extended above 120,000 second-feet on basis of rating curve for station near Grand Canyon; minimum, 750 second-feet Dec. 27, 1924 (gage height, 4.2 feet).

Maximum discharge known, about 300,000 second-feet July 7, 1884 (gage height, 31.5 feet, present site and datum, from floodmark at mouth of Paria River), from rating curve extended above 120,000 second-feet, verified at 220,000 second-feet by comparison with rating curve for station near Grand Canyon.

Remarks.— Records excellent except those for period of no gage-height record, which are good. Diversions above station for irrigation. During the year 128 discharge measurements were made.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Jul.	Aug.	Sept.
1	5,310	4,950	5,000	3,100	4,500	8,660	9,220	22,700	34,700	11,400	4,640	4,900
2	5,500	4,980	4,950	2,950	4,770	7,740	9,580	23,500	36,200	11,600	3,700	4,800
3	5,310	4,900	4,870	3,050	5,060	7,740	9,420	22,200	38,500	11,000	3,300	4,620
4	5,360	4,980	4,950	3,180	6,210	7,200	8,980	20,800	40,500	10,100	a3,000	4,500
5	5,340	4,900	5,030	3,300	6,470	6,800	8,790	19,300	41,100	9,540	a2,700	4,230
6	5,390	4,900	4,870	3,590	6,700	6,280	9,220	18,200	40,600	8,980	a2,500	4,060
7	5,340	4,870	4,850	4,570	6,470	7,030	9,500	20,200	38,500	8,330	a2,400	3,830
8	5,230	4,980	4,770	4,950	6,060	8,400	8,820	25,000	35,300	7,740	a2,290	3,860
9	5,230	5,060	4,720	4,980	5,810	7,920	8,290	26,300	33,700	7,480	a2,220	4,140
10	5,230	5,220	4,600	5,110	5,550	8,530	8,140	28,900	32,100	7,280	a2,080	3,570
11	5,360	5,470	4,640	5,270	5,250	8,100	8,290	31,500	29,300	6,630	a2,020	3,340
12	5,610	5,610	4,740	5,250	5,160	7,680	8,630	32,500	28,600	6,240	1,950	3,030
13	5,960	5,720	4,740	5,440	5,060	7,590	8,480	35,300	24,300	5,900	2,040	3,790
14	6,140	5,960	4,770	6,800	4,980	7,240	8,060	38,400	21,900	5,700	2,070	5,090
15	5,870	5,700	4,770	6,120	4,850	7,140	7,880	41,400	20,800	5,360	2,150	3,830
16	6,050	5,550	4,820	5,550	4,900	6,630	7,990	44,200	20,100	5,110	1,920	3,320
17	6,110	5,410	4,850	5,440	4,900	6,340	8,290	45,200	20,100	4,850	1,830	3,920
18	5,730	5,270	4,770	5,160	4,850	6,210	8,630	45,700	20,200	4,570	1,790	9,450
19	5,580	5,250	4,700	4,800	4,770	6,120	9,220	44,900	20,400	4,350	2,040	8,950
20	5,450	5,250	4,640	b4,090	4,740	5,840	9,750	45,300	19,100	4,600	1,780	10,200
21	5,310	5,330	4,520	b3,680	4,720	5,810	10,500	43,200	18,600	5,000	1,700	11,600
22	5,150	5,360	4,470	b3,050	4,740	5,990	10,300	40,100	18,300	5,810	1,840	11,000
23	4,960	5,330	4,380	b2,450	4,600	5,960	10,300	37,900	17,300	4,670	1,830	10,400
24	4,880	5,080	4,450	b2,320	4,400	6,020	13,400	35,400	16,800	4,140	2,080	12,400
25	4,780	4,950	4,400	b2,790	4,380	6,120	18,500	34,300	15,800	4,110	2,670	a10,400
26	4,660	4,850	4,180	3,070	4,500	6,240	19,200	33,100	15,300	4,380	3,420	a9,340
27	4,540	4,720	3,770	3,120	4,870	6,470	20,000	32,200	14,700	4,480	7,280	8,520
28	4,470	4,740	3,680	3,460	4,670	7,340	21,100	32,500	13,900	4,080	6,530	8,100
29	4,400	4,820	3,860	3,970	4,980	7,700	22,000	32,500	13,200	3,740	4,870	9,510
30	4,320	4,900	3,900	4,230	-	8,360	22,600	32,900	12,300	4,700	4,400	14,800
31	4,440	-	3,480	4,210	-	8,440	-	33,900	-	5,700	5,030	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						163,010	8,140	4,320	5,258	323,500		
November.....						154,990	8,960	4,720	5,166	307,400		
December.....						141,120	5,030	3,480	4,552	279,900		
Calendar year 1939.....						4,456,210	48,300	2,370	12,210	8,839,000		
January.....						128,630	8,600	2,320	4,119	255,100		
February.....						148,720	6,700	4,380	5,128	295,000		
March.....						217,420	8,440	5,610	7,014	431,200		
April.....						343,080	22,600	7,880	11,440	680,500		
May.....						1,019,500	45,700	18,200	32,890	2,022,100		
June.....						750,000	41,100	12,300	25,000	1,487,600		
July.....						197,490	11,600	3,740	6,371	391,700		
August.....						90,070	7,280	1,700	2,905	178,700		
September.....						203,080	14,600	3,030	6,789	402,800		
Water year 1939-40.....						3,557,110	45,700	1,700	9,719	7,055,000		

a No gage-height record; discharge computed on basis of five discharge measurements and records for station near Grand Canyon.

b Stage-discharge relation affected by ice.

Colorado River at Bright Angel Creek, near Grand Canyon, Ariz.

Location.- Water-stage recorder, lat. 36°05'55", long. 112°05'30", at Kaibab Bridge, a quarter of a mile upstream from Bright Angel Creek, 11 miles by trail northeast of Grand Canyon Village, Coconino County, and 267 miles upstream from Boulder Dam. Datum of gage is 2,418.7 feet above mean sea level (preliminary adjustment of 1929).

Drainage area.- 137,800 square miles (revised).

Records available.- October 1922 to September 1940.

Average discharge.- 18 years, 17,400 second-feet.

Extremes.- Maximum discharge during year, 46,800 second-feet May 18 (gage height, 17.66 feet); minimum, 2,240 second-feet Aug. 21 (gage height, 0.84 foot).
1922-40: Maximum discharge, 127,000 second-feet July 2, 1927 (gage height, 29.25 feet); minimum, 700 second-feet Dec. 28, 1924 (gage height, -0.70 foot).

Maximum discharge known, 300,000 second-feet about July 8, 1884 (computed on basis of flood studies at Lees Ferry). Crest discharge of flood of June 19, 1921, 220,000 second-feet (gage height 37.5 feet, from floodmarks), from rating curve extended above 120,000 second-feet by logarithmic plotting.

Remarks.- Records excellent. During the year 137 discharge measurements were made. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5,870	5,100	5,280	3,980	4,720	5,650	9,250	23,100	34,500	12,500	6,440	5,430
2	5,750	5,470	5,320	3,610	5,000	7,820	10,200	22,900	34,500	11,600	5,320	5,260
3	5,950	5,450	5,320	3,360	5,410	8,790	10,300	22,900	36,500	11,200	4,260	5,530
4	5,820	5,340	5,310	3,430	5,800	8,610	9,800	21,400	39,500	12,000	3,630	5,480
5	5,930	5,390	5,450	3,560	6,870	8,000	9,530	20,000	41,600	10,500	3,310	5,430
6	5,870	5,340	5,480	3,740	7,350	7,520	9,580	18,900	41,200	9,610	3,130	5,210
7	5,830	5,310	5,360	4,220	7,400	6,990	9,870	19,100	39,900	9,430	2,980	6,030
8	5,750	5,340	5,340	5,130	7,030	8,320	9,920	22,800	37,400	8,660	2,850	5,020
9	5,650	5,470	5,300	5,350	6,750	9,000	9,210	26,300	34,600	7,980	2,740	4,400
10	5,690	5,560	5,230	5,390	6,410	8,580	8,810	27,200	32,200	7,580	2,600	4,600
11	5,700	5,710	5,130	5,620	6,090	8,930	9,220	31,400	30,700	7,380	2,460	4,110
12	5,870	5,900	5,150	5,820	5,750	8,520	9,240	31,800	29,400	7,060	2,390	3,760
13	5,970	5,990	5,170	5,880	5,600	8,120	9,400	32,900	25,900	6,620	2,320	3,680
14	6,330	6,060	5,170	6,360	5,520	7,920	9,130	36,700	23,300	6,240	2,350	7,270
15	6,470	6,220	5,180	7,170	5,470	8,260	8,580	34,400	21,600	6,080	2,570	8,980
16	6,300	6,090	5,190	6,580	5,310	7,820	8,480	42,100	20,400	5,800	3,220	6,200
17	6,500	6,020	5,220	6,010	5,320	7,460	8,520	44,400	19,900	5,500	5,060	5,530
18	6,480	5,920	5,240	5,870	5,390	7,200	8,710	45,500	20,200	5,190	3,330	8,690
19	6,190	5,710	5,140	5,580	5,270	6,990	9,300	44,400	20,700	4,840	2,990	11,300
20	6,040	5,730	5,060	5,050	5,150	6,650	9,830	44,600	20,400	4,660	2,570	11,400
21	5,950	5,710	5,020	4,460	5,120	6,290	10,600	43,900	19,100	4,920	2,410	12,700
22	5,870	5,690	4,890	4,000	5,150	6,270	10,900	40,600	18,800	5,470	2,380	13,200
23	5,660	5,650	4,870	3,560	5,180	6,450	10,600	37,800	18,000	6,120	3,100	13,300
24	5,440	5,540	4,840	2,870	5,010	6,500	11,200	36,900	16,900	4,980	4,840	14,200
25	5,380	5,340	4,930	2,660	4,880	6,640	16,100	34,800	16,200	4,480	7,890	14,100
26	5,220	5,340	4,860	3,130	4,980	6,710	19,100	33,300	15,700	4,430	6,990	11,200
27	5,080	5,190	4,570	3,440	5,180	6,940	19,600	32,100	15,400	4,660	7,730	9,650
28	5,020	5,190	4,170	3,510	5,390	7,280	20,700	31,700	14,700	7,070	9,230	9,030
29	4,980	5,240	4,160	3,870	5,360	8,020	21,500	32,100	14,100	5,740	7,130	8,900
30	4,980	5,260	4,320	4,360	-	8,460	22,000	32,800	13,400	4,600	5,390	11,900
31	4,840	-	4,340	4,670	-	9,050	-	33,100	-	5,340	4,830	-
Month						Second-foot-days	Maximum	Minimum	Mean		Run-off in acre-feet	
October.....						178,380	6,500	4,840	5,764		353,800	
November.....						167,270	6,220	5,100	5,576		331,800	
December.....						156,010	5,480	4,160	5,033		309,400	
Calendar year 1939.....						4,582,690	48,100	2,790	12,560		9,090,000	
January.....						142,240	7,170	2,660	4,588		282,100	
February.....						163,860	7,400	4,720	5,650		325,000	
March.....						235,760	9,050	5,650	7,605		467,600	
April.....						349,180	22,000	8,480	11,640		692,600	
May.....						1,001,900	45,500	18,900	32,320		1,987,200	
June.....						765,700	41,600	13,400	25,520		1,518,700	
July.....						219,240	12,500	4,430	7,040		432,900	
August.....						128,540	9,230	2,320	4,146		255,000	
September.....						241,490	14,200	3,680	8,050		479,000	
Water year 1939-40.....						3,748,570	45,500	2,320	10,240		7,435,000	

Lake Mead at Boulder Dam, Ariz.-Nev.

Location.- Water-stage indicator, lat. 36°00'59", long. 114°44'10", in SW¼ sec. 3, T. 30 N., R. 23 W., Gila and Salt River meridian, on State line, in center of Boulder Dam on Colorado River. Datum of gage is at mean sea level (general adjustment of 1912, subject to correction), or 0.38 foot above mean sea level (general adjustment of 1929, subject to correction). Elevations given herein are referred to general adjustment of 1912.

Drainage area.- 167,800 square miles (revised).

Records available.- February 1935 to September 1940.

Extremes.- Maximum contents during year, 22,188,000 acre-feet July 1 to 6 (elevation, 1,182.2 feet); minimum, 19,825,000 acre-feet Apr. 4, 5, 20 (elevation, 1,164.2 feet). 1935-40: Maximum contents, 22,359,000 acre-feet (revised) June 29 to July 4, 1939 (elevation, 1,183.45 feet).

Revisions: The figures of maximum and minimum contents for the period of record have been revised, as shown in the following table, based on survey completed in 1940. Figures previously published are of total contents; revised figures are of usable contents and supersede those published in the water-supply papers indicated.

Water Supply Paper	Water year	Maximum			Minimum		
		Date	Elevation (feet)	Contents (acre-feet)	Date	Elevation (feet)	Contents (acre-feet)
789	1935	July 30 to Aug. 2	928.45	*1,242,000	-	-	-
809	1935-36	Sept. 10	1,025.85	6,500,000	Apr. 14	905.2	*351,000
829	1936-37	July 28	1,102.9	12,946,000	Feb. 5	1,021.9	6,230,000
859	1937-38	Sept. 24-27	1,173.9	21,078,000	Feb. 13-18	1,094.65	12,143,000
879	1938-39	June 29 to July 4	1,183.45	22,359,000	Mar. 17-23	1,156.1	18,815,000

*Prior to the final closing of outlet tunnel No. 1 on May 1, 1936, the storage below elevation 895.0 feet was also available for release but is not included in figures shown.

Remarks.- Reservoir is formed by concrete arch-gravity type dam; storage began Feb. 1, 1935; dam completed Mar. 1, 1936. Total capacity, 32,359,000 acre-feet, consisting of the following: dead storage, 3,207,000 acre-feet (revised) below elevation 895.0 feet (gate sills in outlet towers), usable contents, 27,935,000 acre-feet (revised) between elevations 895.0 feet and 1,221.4 feet (top of automatic spillway gates in raised position), and uncontrolled storage, 1,217,000 acre-feet between elevations 1,221.4 feet and 1,229.0 feet. Reservoir is used to store water for irrigation, municipal supply, and power development, and for flood control. Figures given herein represent usable contents. Records computed on basis of Pacific standard time.

Cooperation.- Records collected and prepared in cooperation with Bureau of Reclamation. Revisions.- Revised figures of monthly contents for the water years 1935-39, superseding those published in Water-Supply Papers 789, 809, 829, 859, and 879, are given herein. Figures previously published are of total contents; revised figures are of usable contents based on survey completed in 1940.

Capacity table (elevation, in feet, and usable contents, in thousands of acre-feet)
(Compiled by Bureau of Reclamation from computations made in 1940 by the Soil Conservation Service, and supersedes table made in 1935 from preliminary surveys)

895	0	950	2,183	1,030	6,789	1,110	13,660	1,190	23,265
920	904	990	4,242	1,070	9,905	1,160	18,077	1,229	29,152

Elevation at 7 a.m., in feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	178.9	176.0	172.95	169.8	166.9	166.0	164.55	165.05	175.7	182.2	179.7	176.0
2	178.8	175.9	172.85	169.7	166.85	166.0	164.45	165.25	176.1	182.2	179.6	175.9
3	178.7	175.75	172.75	169.6	166.8	166.0	164.4	165.4	176.5	182.2	179.5	175.8
4	178.6	175.65	172.65	169.5	166.75	166.0	164.2	165.6	176.9	182.2	179.4	175.7
5	178.5	175.55	172.55	169.35	166.75	166.0	164.2	165.8	177.3	182.2	179.3	175.6
6	178.35	175.5	172.45	169.2	166.75	166.0	164.25	165.95	177.8	182.2	179.1	175.5
7	178.2	175.4	172.35	169.05	166.75	166.0	164.3	166.1	178.3	182.1	179.0	175.4
8	178.15	175.3	172.25	168.9	166.75	166.0	164.35	166.25	178.7	182.1	178.9	175.3
9	178.05	175.2	172.2	168.85	166.7	166.0	164.4	166.4	179.0	182.0	178.7	175.4
10	178.0	175.1	172.1	168.75	166.7	166.0	164.45	166.6	179.4	182.0	178.6	175.3
11	177.9	174.95	172.0	168.65	166.7	165.95	164.45	166.85	179.6	181.9	178.5	175.2
12	177.8	174.9	171.95	168.6	166.65	165.9	164.45	167.15	180.0	181.8	178.3	175.1
13	177.75	174.8	171.8	168.5	166.6	165.95	164.45	167.5	180.3	181.7	178.1	175.0
14	177.65	174.7	171.65	168.45	166.55	165.95	164.4	167.8	180.5	181.6	178.0	174.8
15	177.6	174.6	171.55	168.4	166.5	165.9	164.35	168.2	180.7	181.6	177.8	174.7
16	177.55	174.45	171.45	168.3	166.45	165.85	164.35	168.6	180.8	181.4	177.6	174.6
17	177.45	174.35	171.35	168.25	166.4	165.8	164.3	169.0	181.0	181.3	177.5	174.55
18	177.35	174.25	171.3	168.15	166.4	165.75	164.3	169.6	181.1	181.2	177.4	174.5
19	177.3	174.15	171.15	168.05	166.35	165.65	164.25	170.1	181.3	181.1	177.3	174.55
20	177.2	174.05	171.1	167.95	166.35	165.6	164.2	170.6	181.4	180.9	177.2	174.5
21	177.1	173.95	170.95	167.85	166.3	165.55	164.25	171.2	181.5	180.8	177.1	174.45
22	177.05	173.8	170.85	167.8	166.25	165.45	164.25	171.7	181.6	180.7	177.0	174.4
23	176.95	173.7	170.75	167.65	166.2	165.35	164.25	172.2	181.7	180.6	176.8	174.5
24	176.85	173.65	170.65	167.55	166.15	165.25	164.25	172.7	181.8	180.5	176.6	174.5
25	176.7	173.55	170.6	167.45	166.1	165.15	164.25	173.2	181.9	180.4	176.5	174.5
26	176.6	173.45	170.45	167.3	166.15	165.05	164.25	173.6	182.0	180.3	176.4	174.5
27	176.5	173.4	170.4	167.2	166.1	164.95	164.35	174.0	182.0	180.2	176.3	174.45
28	176.4	173.3	170.3	167.15	166.1	164.85	164.55	174.4	182.1	180.1	176.2	174.45
29	176.3	173.2	170.15	167.1	166.0	164.85	164.65	174.7	182.1	180.0	176.15	174.4
30	176.2	173.05	169.95	167.0	-	164.75	164.85	175.0	182.15	179.9	176.1	174.4
31	176.1	-	169.85	166.9	-	164.65	-	175.35	-	179.8	176.1	-

Note.- Add 1,000.00 feet to obtain elevations above mean sea level.

Contents at 7 a.m., in thousands of acre-feet, of Lake Mead at Boulder Dam, Ariz.-Nev., water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	21,743	21,356	20,954	20,543	20,169	20,054	19,870	19,934	21,316	22,188	21,850	21,356
2	21,729	21,343	20,940	20,530	20,162	20,054	19,868	19,958	21,369	22,188	21,837	21,343
3	21,716	21,322	20,928	20,517	20,156	20,054	19,851	19,978	21,422	22,188	21,824	21,329
4	21,702	21,310	20,914	20,504	20,150	20,054	19,825	20,003	21,476	22,188	21,810	21,316
5	21,689	21,296	20,901	20,484	20,150	20,054	19,825	20,029	21,529	22,188	21,796	21,303
6	21,669	21,290	20,888	20,465	20,150	20,054	19,832	20,048	21,595	22,188	21,770	21,290
7	21,649	21,276	20,874	20,446	20,150	20,054	19,836	20,067	21,662	22,175	21,756	21,276
8	21,642	21,263	20,862	20,439	20,150	20,054	19,844	20,086	21,716	22,175	21,743	21,263
9	21,628	21,250	20,855	20,420	20,144	20,054	19,851	20,105	21,756	22,161	21,716	21,276
10	21,622	21,236	20,842	20,407	20,144	20,054	19,858	20,131	21,810	22,161	21,702	21,263
11	21,609	21,216	20,829	20,394	20,144	20,048	19,858	20,162	21,837	22,148	21,689	21,250
12	21,595	21,210	20,822	20,388	20,139	20,041	19,858	20,202	21,891	22,134	21,662	21,236
13	21,588	21,197	20,803	20,375	20,131	20,048	19,858	20,246	21,932	22,120	21,635	21,223
14	21,576	21,183	20,784	20,368	20,124	20,048	19,851	20,285	21,968	22,107	21,622	21,197
15	21,569	21,170	20,770	20,362	20,118	20,041	19,844	20,337	21,986	22,107	21,595	21,183
16	21,562	21,150	20,758	20,349	20,112	20,035	19,844	20,388	21,999	22,080	21,569	21,170
17	21,549	21,138	20,744	20,343	20,105	20,029	19,838	20,439	22,026	22,066	21,556	21,161
18	21,536	21,124	20,738	20,330	20,105	20,022	19,838	20,517	22,040	22,053	21,542	21,157
19	21,529	21,110	20,718	20,318	20,098	20,010	19,832	20,592	22,066	22,040	21,529	21,164
20	21,516	21,098	20,712	20,304	20,098	20,003	19,825	20,647	22,080	22,012	21,516	21,157
21	21,502	21,084	20,692	20,292	20,092	19,996	19,832	20,725	22,094	21,999	21,502	21,150
22	21,496	21,065	20,680	20,285	20,086	19,984	19,832	20,790	22,107	21,966	21,489	21,150
23	21,482	21,062	20,666	20,266	20,080	19,972	19,832	20,855	22,120	21,972	21,462	21,157
24	21,469	21,046	20,654	20,252	20,074	19,968	19,832	20,921	22,134	21,958	21,436	21,157
25	21,449	21,032	20,647	20,240	20,067	19,946	19,832	20,986	22,148	21,945	21,422	21,157
26	21,436	21,019	20,628	20,221	20,074	19,934	19,832	21,039	22,161	21,932	21,409	21,157
27	21,422	21,012	20,621	20,208	20,067	19,920	19,844	21,091	22,161	21,915	21,393	21,150
28	21,409	20,999	20,608	20,202	20,067	19,920	19,870	21,144	22,175	21,904	21,383	21,150
29	21,396	20,986	20,588	20,195	20,054	19,908	19,882	21,183	22,175	21,891	21,376	21,144
30	21,383	20,967	20,576	20,182	-	19,896	19,908	21,223	22,182	21,878	21,369	21,144
31	21,369	-	20,562	20,169	-	19,882	-	21,270	-	21,864	21,369	-

Monthly elevation and contents, 1935-40

Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Feb. 28, 1935.....	708.7	*107,000	+107,000
Mar. 31.....	701.7	*80,000	-27,000
Apr. 30.....	752.4	*356,000	+276,000
May 31.....	806.6	*1,015,000	+657,000
June 30.....	909.1	*3,699,000	+2,684,000
July 31.....	925.45	*4,449,000	+750,000
Aug. 31.....	925.9	*4,346,000	-103,000
Sept.30.....	920.75	*4,140,000	-206,000
Oct. 31, 1935.....	914.9	*3,914,000	-226,000
Nov. 30.....	908.3	*3,669,000	-245,000
Dec. 31.....	908.4	*3,673,000	+4,000
Jan. 31, 1936.....	907.9	*3,654,000	-19,000
Feb. 29.....	908.35	*3,671,000	+17,000
Mar. 31.....	906.9	*3,618,000	-53,000
Apr. 30.....	922.25	*4,199,000	+581,000
May 31.....	982.4	5,816,000	+2,824,000
June 30.....	1,015.5	5,804,000	+1,988,000
July 31.....	1,020.45	6,132,000	+328,000
Aug. 31.....	1,024.45	6,404,000	+272,000
Sept.30.....	1,024.6	6,414,000	+10,000
Water year 1935-36.....	-	-	+5,481,000
Oct. 31, 1936.....	1,022.55	6,274,000	-140,000
Nov. 30.....	1,023.55	6,342,000	+68,000
Dec. 31.....	1,023.5	6,339,000	-3,000
Calendar year 1936.....	-	-	-
Jan. 31, 1937.....	1,022.25	6,254,000	-85,000
Feb. 28.....	1,026.15	6,520,000	+266,000
Mar. 31.....	1,031.0	6,589,000	+69,000
Apr. 30.....	1,044.55	7,549,000	+960,000
May 31.....	1,078.7	10,667,000	+2,818,000
June 30.....	1,096.55	12,325,000	+1,658,000
July 31.....	1,102.8	12,936,000	+611,000
Aug. 31.....	1,099.55	12,617,000	-319,000
Sept.30.....	1,097.65	12,432,000	-185,000
Water year 1936-37.....	-	-	+6,118,000

*Prior to the final closing of outlet tunnel No. 1 on May 1, 1936, the storage below elevation 895.0 feet was also available for release and is included in figures shown.

Monthly elevation and contents, of Lake Mead at Boulder Dam, Ariz.-Nev.,
1935-40--Continued

Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Oct. 31, 1937.....	1,096.7	12,540,000	-92,000
Nov. 30.....	1,096.0	12,272,000	-68,000
Dec. 31.....	1,095.75	12,248,000	-24,000
Calendar year 1937.....	-	-	+5,909,000
Jan. 31, 1938.....	1,095.0	12,176,000	-72,000
Feb. 28.....	1,094.85	12,162,000	-14,000
Mar. 31.....	1,100.2	12,681,000	+519,000
Apr. 30.....	1,109.2	13,578,000	+897,000
May 31.....	1,134.3	16,262,000	+2,684,000
June 30.....	1,165.6	20,003,000	+3,741,000
July 31.....	1,173.6	21,026,000	+1,023,000
Aug. 31.....	1,171.95	20,822,000	-204,000
Sept. 30.....	1,173.8	21,065,000	+243,000
Water year 1937-38.....	-	-	+8,633,000
Oct. 31, 1938.....	1,171.45	20,758,000	-307,000
Nov. 30.....	1,168.7	20,401,000	-357,000
Dec. 31.....	1,168.65	20,394,000	-7,000
Calendar year 1938.....	-	-	+8,146,000
Jan. 31, 1939.....	1,165.4	19,978,000	-416,000
Feb. 28.....	1,157.4	19,975,000	-1,003,000
Mar. 31.....	1,158.2	19,074,000	+99,000
Apr. 30.....	1,162.9	19,661,000	+587,000
May 31.....	1,176.2	21,383,000	+1,722,000
June 30.....	1,183.45	22,359,000	+976,000
July 31.....	1,181.3	22,067,000	-292,000
Aug. 31.....	1,177.35	21,536,000	-531,000
Sept. 30.....	1,178.95	21,749,000	+213,000
Water year 1938-39.....	-	-	+684,000
Oct. 31, 1939.....	1,176.1	21,369,000	-380,000
Nov. 30.....	1,173.05	20,967,000	-402,000
Dec. 31.....	1,169.95	20,562,000	-405,000
Calendar year 1939.....	-	-	+168,000
Jan. 31, 1940.....	1,166.9	20,169,000	-393,000
Feb. 29.....	1,166.0	20,054,000	-115,000
Mar. 31.....	1,164.65	19,882,000	-172,000
Apr. 30.....	1,164.35	19,908,000	+26,000
May 31.....	1,175.35	21,270,000	+1,362,000
June 30.....	1,182.15	22,182,000	+912,000
July 31.....	1,179.8	21,864,000	-318,000
Aug. 31.....	1,176.1	21,369,000	-495,000
Sept. 30.....	1,174.4	21,144,000	-225,000
Water year 1939-40.....	-	-	-605,000

Colorado River below Boulder Dam, Ariz.-Nev.

Location.- Water-stage recorder, lat. 36°00'15", long. 114°44'35", in SW¼ sec. 10, T. 30 N., R. 23 W., Gila and Salt River meridian, or NW¼ sec. 32, T. 22 S., R. 65 E., Mount Diablo meridian, 1 mile downstream from Boulder Dam and 11 miles upstream from Willow Beach. Datum of gage is 599.75 feet above mean sea level (general adjustment of 1912, subject to correction), used locally as 600.00 feet as originally determined. Prior to Nov. 1, 1939, water-stage recorder at site 9 miles downstream at different datum.

Drainage area.- 167,800 square miles (revised) at Boulder Dam; 168,400 at former site near Willow Beach (revised to include 540 square miles in noncontributing area between Searchlight and Boulder City, Nev.).

Records available.- April 1934 to September 1940. April 1934 to November 1939, collected at site 9 miles downstream (published as Colorado River near Willow Beach, Ariz.).

Extremes.- Maximum discharge during year, 22,900 second-feet Sept. 28 (gage height, 47.6 feet); minimum, 2,920 second-feet Feb. 6 (gage height, 38.15 feet); minimum daily, 5,090 second-feet June 2.

1935-40 (regulated): Maximum discharge, 51,200 second-feet Feb. 13, 1939 (gage height 54.96 feet, present site and datum); no flow Feb. 10, 1935 at present site.

Remarks.- Records excellent. Records Oct. 1-31 collected at former site near Willow Beach. Diversions above Boulder Dam for irrigation. Discharge completely regulated at Boulder Dam since Feb. 1, 1935. Records computed on basis of Pacific standard time. During the year 209 discharge measurements were made.

Cooperation.- Records collected in cooperation with Bureau of Reclamation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Avg.	Sept.
1	9,000	12,100	12,100	10,600	9,460	6,870	16,000	10,300	6,300	11,000	11,100	10,900
2	10,900	12,400	11,500	12,700	8,610	6,320	18,000	10,300	5,090	10,800	11,100	9,860
3	12,200	12,200	10,300	12,700	9,370	5,490	17,900	10,300	7,620	10,800	10,800	10,200
4	12,200	11,200	12,500	13,600	8,670	7,840	14,300	10,300	8,310	10,900	10,800	10,600
5	12,000	9,600	12,600	12,900	7,650	8,800	8,000	10,400	7,760	10,900	11,200	11,200
6	12,000	12,100	11,900	12,000	7,660	8,170	6,930	10,400	7,960	10,700	11,500	11,500
7	11,400	11,700	11,600	10,300	8,590	8,400	5,920	10,200	12,200	10,700	11,600	10,500
8	9,920	12,600	11,600	12,000	8,310	7,890	7,840	10,300	12,200	11,300	11,500	8,990
9	10,900	13,100	11,000	12,000	8,330	8,970	8,060	10,200	12,200	11,900	11,500	11,600
10	10,500	13,300	9,580	12,000	8,030	9,090	7,930	10,300	11,700	11,100	10,600	12,000
11	10,700	10,800	11,600	11,500	7,970	8,430	7,940	10,200	11,300	11,200	10,900	11,700
12	10,800	8,800	12,000	10,900	8,620	8,800	7,780	10,400	10,100	11,400	11,000	12,900
13	10,700	8,800	12,000	10,400	8,550	8,830	11,200	10,300	9,470	11,200	12,000	13,000
14	10,300	13,500	12,100	9,570	9,400	10,000	11,200	10,400	9,890	11,100	12,200	12,000
15	9,330	13,600	11,900	11,800	8,140	10,700	11,100	10,500	9,620	11,200	11,300	10,600
16	11,000	13,600	11,500	11,900	7,880	10,700	11,000	10,300	9,850	11,400	11,100	12,400
17	11,700	13,800	10,500	12,800	7,100	10,600	11,100	10,300	9,650	11,400	9,730	13,000
18	11,900	12,800	12,800	12,100	6,210	10,800	9,910	10,300	9,830	13,000	6,680	12,900
19	11,700	10,400	11,900	12,000	8,530	12,100	9,730	10,400	9,650	11,500	11,300	13,000
20	11,600	13,400	11,700	11,100	8,300	12,100	9,620	10,100	9,680	11,300	11,600	12,900
21	11,000	13,700	11,700	9,080	8,480	12,100	9,570	8,340	9,570	11,000	10,600	11,900
22	9,710	13,200	11,800	11,700	8,220	12,200	10,300	8,240	9,650	10,600	11,000	10,300
23	11,300	10,300	11,400	11,900	8,350	12,200	10,200	8,090	9,670	11,100	11,100	12,700
24	11,700	10,500	9,980	11,800	7,220	12,300	10,100	7,990	9,730	11,500	10,800	13,100
25	11,400	10,400	9,250	11,900	6,560	12,300	10,400	6,360	9,770	10,300	11,000	13,400
26	11,200	9,360	11,100	10,900	9,650	12,500	10,400	5,260	10,800	10,200	11,000	13,300
27	11,100	11,400	11,900	8,620	8,080	12,100	10,300	8,450	11,000	8,450	11,000	13,200
28	10,500	12,400	12,000	6,060	7,920	12,100	10,400	8,630	9,050	10,800	12,100	12,100
29	9,500	12,600	11,600	8,900	7,450	12,000	10,400	8,260	10,900	9,820	11,100	7,280
30	11,100	12,200	11,000	9,110	-	13,200	10,300	6,440	11,100	10,400	11,000	12,200
31	11,600	-	10,200	9,080	-	16,000	-	7,770	-	11,000	10,800	-
Month	Second-foot-days											
October	340,860					12,200		9,000		11,000		676,100
November	358,360					13,800		8,900		11,950		710,800
December	354,120					12,600		9,250		11,420		702,400
Calendar year 1939	4,358,480					32,000		4,440		11,940		8,645,000
January	343,720					13,500		6,060		11,090		681,800
February	234,310					9,650		5,670		8,080		464,700
March	319,900					16,000		5,490		10,320		634,500
April	313,830					18,000		5,920		10,460		622,500
May	290,030					10,500		5,260		9,350		575,300
June	293,570					12,200		8,090		9,780		582,300
July	339,320					13,000		8,450		10,950		673,000
August	340,720					12,200		6,690		10,990		675,800
September	350,510					13,400		7,260		11,680		695,200
Water year 1939-40	3,879,260					18,000		5,090		10,600		7,694,000

Colorado River at Needles, Calif.

Location.— Water-stage recorder, lat. 34°50'50", long. 114°36'15", in NW¼ sec. 29, T. 9 N., R. 23 E., San Bernardino meridian, at Needles, Calif., 18 miles upstream from gaging station near Topock, Ariz., 57.5 miles upstream from Parker Dam, and 98 miles downstream from Boulder Dam. Datum of gage is 466.23 feet (general adjustment of 1929) or 466.39 feet (general adjustment of 1912) above mean sea level; gage readings have been reduced to elevation above mean sea level (general adjustment of 1929).

Drainage area.— 170,600 square miles.

Records available.— April 1931 to September 1940 (elevations only).

Extremes.— Maximum elevation during year, 470.07 feet Apr. 5; minimum, 466.88 feet Mar. 4, 5.

1931-40: Maximum elevation, 472.10 feet June 25, 1933; minimum, 466.53 feet Oct. 2, 1934.

Remarks.— Records good. Flow completely regulated by Lake Mead above Boulder Dam.

Elevation, in feet, water year 1939-40

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	468.68	468.76	468.99	468.51	468.73	467.94	469.78	469.06	468.16	469.10	469.58	469.32
2	468.43	468.78	468.95	468.58	468.74	467.66	469.74	469.04	468.18	469.10	469.44	469.39
3	468.75	468.85	468.85	468.87	468.51	467.49	469.8	468.97	467.83	469.16	469.36	469.34
4	469.06	468.59	468.60	468.95	468.50	467.19	470.0	469.08	467.85	469.11	469.39	468.79
5	469.19	468.77	468.94	469.18	468.06	467.39	469.8	469.11	468.40	469.22	469.49	469.22
6	469.23	468.58	469.02	469.09	468.05	468.37	469.1	469.03	468.38	469.14	469.47	469.33
7	469.22	468.78	468.85	468.85	468.09	468.18	469.0	469.09	468.32	469.18	469.55	469.37
8	469.13	468.85	468.81	468.49	468.39	468.34	468.6	469.03	469.04	469.07	469.53	469.06
9	468.91	468.92	468.78	468.75	468.33	468.37	468.3	469.10	469.46	469.35	469.51	468.99
10	468.95	468.94	468.69	468.86	468.37	468.39	468.5	469.07	469.33	469.33	469.58	469.16
11	468.83	468.95	468.46	468.84	468.28	468.69	468.6	469.04	469.13	469.13	469.35	469.50
12	468.79	468.70	468.79	468.79	468.24	468.43	468.5	469.13	469.17	469.02	469.49	469.39
13	468.77	468.33	468.92	468.77	468.38	468.44	468.4	469.11	468.85	469.36	469.56	469.59
14	468.74	468.70	468.95	468.59	468.36	468.47	468.9	469.08	468.69	469.33	469.76	469.75
15	468.67	469.02	468.93	468.43	468.54	468.60	469.2	469.04	468.95	469.32	469.84	469.59
16	468.48	469.09	468.91	468.71	468.48	468.37	469.2	469.04	468.78	469.22	469.69	469.32
17	468.68	469.11	468.79	468.80	468.35	469.06	469.06	469.06	468.71	469.38	469.59	469.50
18	468.82	469.24	468.60	468.91	468.16	468.58	469.06	469.06	468.83	469.32	469.43	469.84
19	468.84	469.08	468.63	468.78	467.93	468.81	468.96	469.12	468.81	469.63	468.97	469.62
20	468.76	468.73	468.86	468.77	468.05	469.13	468.80	469.02	468.71	469.80	469.33	469.63
21	468.68	469.25	468.86	468.56	468.39	469.08	468.80	468.96	468.67	469.63	469.64	469.68
22	468.61	469.39	468.83	468.22	468.40	469.24	468.80	468.54	468.67	469.50	469.46	469.43
23	468.53	469.30	468.83	468.55	468.35	469.25	468.76	468.54	468.75	469.45	469.38	469.17
24	468.73	468.90	468.81	468.74	468.38	469.32	468.91	468.50	468.70	469.46	469.35	469.52
25	468.87	469.76	468.55	468.77	468.33	469.18	468.90	468.49	468.71	469.57	469.32	469.71
26	468.81	468.78	468.37	468.83	467.94	469.13	468.95	468.25	468.72	469.48	469.43	469.75
27	468.77	468.62	468.59	468.70	468.34	469.29	468.98	467.88	468.83	469.35	468.99	469.70
28	468.75	468.93	468.76	468.51	468.27	469.19	468.98	468.13	469.12	469.26	469.22	469.73
29	468.70	469.06	468.78	468.04	468.10	469.23	469.00	468.62	469.03	468.98	469.14	469.69
30	468.49	469.06	468.71	468.41	-	469.27	469.02	468.53	469.02	469.33	469.20	468.90
31	468.67	-	468.64	468.68	-	469.34	-	468.24	-	469.48	469.26	-

Note.— No gage-height record Apr. 3-16; elevations determined from recorded range in stage and comparison with records at Willow Beach and near Topock, Ariz.

COLORADO RIVER MAIN STEM

Colorado River near Topock, Ariz.

Location.- Water-stage recorder, lat. $34^{\circ}41'15''$, long. $114^{\circ}27'45''$, in NW $\frac{1}{4}$ sec. 13, T. 15 N., R. 21 W., Gila and Salt River meridian, in Mohave Canyon, 3 miles downstream from Topock, 40 miles upstream from Parker Dam, and 116 miles downstream from Boulder Dam. Datum of gage is 423.02 feet (general adjustment of 1929) or 423.08 feet (general adjustment of 1912) above mean sea level. Auxiliary water-stage recorder, used in determining fall, lat. $34^{\circ}42'55''$, long. $114^{\circ}29'10''$, in NE $\frac{1}{4}$ sec. 3, T. 15 N., R. 21 W., at highway bridge at Topock, 2.7 miles upstream.

Drainage area.- 172,300 square miles (revised).

Records available.- February 1917 to September 1940.

Extremes.- Maximum discharge during year, 17,500 second-feet Apr. 5 (gage height, 24.68 feet); minimum, 4,720 second-feet May 28; minimum daily, 4,980 second-feet May 28, minimum gage height, 21.03 feet Mar. 5.
1917-34 (unregulated): Maximum discharge, 174,000 second-feet June 22, 1921; minimum 1,480 second-feet Aug. 17, 1934.
1935-40 (regulated): Maximum discharge, 34,900 second-feet Feb. 2, 1939; minimum, 375 second-feet Feb. 14, 1935; minimum daily, 422 second-feet Feb. 14, 1935.

Remarks.- Records good. Records computed on basis of mountain standard time. Discharge computed by using fall as determined by auxiliary water-stage recorder as a factor. Diversions above station for irrigation. Flow regulated at Boulder Dam; no regulation between Boulder Dam and this station. Elevations given in the following table are in agreement with general adjustment of 1929.

Elevation, in feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	446.25	445.55	446.30	446.17	445.29	445.14	446.67	446.18	445.76	445.79	445.77	445.47
2	445.75	445.82	446.32	446.10	445.51	445.03	446.93	446.16	445.78	445.74	445.82	445.54
3	445.28	445.99	446.28	446.14	445.45	444.75	446.97	446.12	445.50	445.74	445.84	445.64
4	445.46	446.14	446.07	446.40	445.25	444.50	447.30	446.14	444.95	445.69	445.83	445.42
5	445.71	446.14	445.87	446.67	445.16	444.14	447.60	446.16	445.23	445.63	445.76	445.47
6	445.72	445.92	446.12	446.81	444.44	444.66	447.00	446.13	445.55	445.65	445.72	445.63
7	445.71	445.66	446.30	446.78	444.59	445.07	446.69	446.15	445.56	445.63	445.72	445.75
8	445.78	445.89	446.28	446.61	444.62	445.02	446.31	446.17	445.58	445.62	445.71	445.73
9	445.59	446.12	446.25	446.40	444.87	445.10	446.83	446.15	446.09	445.61	445.72	445.65
10	445.29	446.26	446.18	446.60	444.87	445.02	446.89	446.22	446.02	445.77	445.71	445.44
11	445.35	446.46	445.95	446.56	444.84	445.13	445.94	446.16	445.97	445.77	445.71	445.71
12	445.31	446.46	445.71	446.57	444.76	445.11	445.84	446.16	445.94	445.65	445.76	445.87
13	445.28	445.89	446.04	446.41	444.98	445.04	445.76	446.21	445.90	445.67	445.72	445.93
14	445.28	445.68	446.20	446.26	445.12	445.11	445.84	446.24	445.80	445.67	445.84	445.96
15	445.30	446.03	446.23	446.01	445.20	445.16	445.99	446.25	445.93	445.56	445.91	446.01
16	445.15	446.31	446.23	446.82	445.25	445.30	446.01	446.25	445.03	445.51	445.91	445.91
17	444.90	446.42	445.24	446.02	445.13	445.35	445.96	446.31	445.92	445.58	445.73	445.87
18	445.27	446.54	446.14	446.22	445.03	445.22	445.99	446.27	445.90	445.63	445.71	446.02
19	445.53	446.59	446.02	446.35	444.75	445.10	446.04	446.30	445.95	445.60	445.48	446.10
20	445.62	446.33	446.08	446.45	444.51	445.21	445.87	446.37	446.02	445.76	445.05	446.07
21	445.67	446.18	446.13	446.37	444.92	445.43	445.91	446.42	446.00	445.86	445.60	446.14
22	445.67	446.50	446.17	446.18	445.07	445.52	445.94	446.32	446.00	445.74	445.73	446.11
23	445.50	446.74	446.21	445.86	445.17	445.60	445.98	446.12	445.93	445.71	445.58	446.02
24	445.36	446.62	446.15	446.02	445.14	445.71	446.07	446.07	445.99	445.61	445.50	445.87
25	445.61	446.08	445.92	446.15	445.22	445.82	446.09	446.08	445.98	445.64	445.42	446.00
26	445.77	445.94	445.78	446.26	445.02	445.87	446.11	446.11	445.86	445.69	445.41	446.13
27	445.79	445.75	445.64	446.26	444.82	445.96	446.12	445.78	445.87	445.64	445.27	446.20
28	445.76	445.59	445.83	446.12	445.29	446.05	446.13	445.48	446.06	445.64	445.26	446.23
29	445.71	445.85	446.09	446.37	445.25	446.08	446.13	445.02	446.03	445.35	445.33	446.18
30	445.46	446.08	446.20	444.68	-	446.19	446.17	446.20	445.88	445.33	445.38	445.89
31	445.28	-	446.20	446.14	-	446.32	-	446.20	-	445.62	445.43	-

Discharge, in second-feet, of Colorado River near Topock, Ariz., water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Jul.	Aug.	Sept.
1	10,600	10,300	12,100	10,900	9,000	8,230	14,400	9,960	6,530	10,300	9,930	10,400
2	9,500	11,000	11,900	10,700	9,000	7,950	15,500	9,830	7,070	10,500	10,300	10,600
3	9,350	11,600	11,600	10,900	9,000	7,240	15,800	9,630	6,470	10,500	10,600	10,800
4	10,600	12,100	11,000	11,900	9,000	6,560	16,800	9,880	5,190	10,400	10,700	9,670
5	11,300	12,000	10,800	12,500	8,940	5,500	17,200	9,880	6,700	10,200	10,500	9,950
6	11,200	10,800	11,800	12,600	6,470	7,480	12,500	9,720	8,080	10,400	10,600	10,500
7	11,100	10,200	12,000	12,300	7,060	8,420	9,000	9,810	8,160	10,200	10,300	10,900
8	11,200	11,000	11,700	11,700	7,320	8,350	7,500	9,830	9,490	10,100	10,900	10,900
9	10,500	11,800	11,500	11,200	8,220	8,270	7,000	9,760	11,500	10,300	11,100	10,400
10	9,700	12,300	11,300	11,600	8,150	8,470	8,000	9,930	11,200	10,800	11,100	9,640
11	10,100	12,700	10,400	11,900	8,010	9,050	8,000	9,580	11,200	11,100	11,100	11,000
12	10,000	12,500	9,830	12,000	7,760	8,550	8,000	9,780	11,100	10,700	11,000	11,700
13	10,100	10,300	11,800	11,400	8,120	8,240	8,000	9,860	10,000	11,100	10,800	11,900
14	10,400	10,000	11,500	11,000	8,920	8,400	8,000	9,990	9,340	10,900	11,300	12,000
15	10,400	10,900	11,700	10,600	9,000	8,590	10,500	9,810	9,340	10,700	11,600	12,200
16	9,790	12,500	11,700	10,300	9,250	9,250	11,000	9,830	9,640	10,500	11,700	11,500
17	9,200	13,000	11,600	11,500	8,720	9,940	10,800	9,860	9,240	10,600	11,400	11,200
18	10,800	13,100	11,100	12,000	8,390	9,880	10,500	9,790	8,900	10,700	11,000	12,000
19	11,400	13,200	10,500	12,500	7,410	9,880	10,600	10,000	9,050	10,600	9,980	12,100
20	11,400	12,000	11,200	12,000	6,560	10,400	9,470	10,100	9,180	11,100	8,540	12,100
21	11,400	11,700	11,500	11,500	7,870	11,300	9,330	9,930	9,120	11,500	10,700	12,300
22	11,200	12,700	11,500	10,500	8,140	11,200	9,430	9,050	9,260	11,200	11,000	12,200
23	10,200	13,000	11,500	10,100	8,280	11,600	9,410	8,110	9,130	10,700	10,400	11,900
24	9,820	12,200	11,400	10,900	8,180	11,900	9,740	7,800	9,380	10,100	10,300	11,300
25	10,700	10,500	10,700	11,200	8,260	12,000	9,710	7,660	9,420	10,300	10,200	11,900
26	11,100	10,500	9,730	11,500	7,500	12,000	9,880	7,410	9,130	10,400	10,300	12,200
27	11,000	9,830	9,350	11,400	7,110	12,000	9,970	6,050	9,240	10,200	10,500	12,600
28	10,700	9,420	10,400	11,000	8,680	12,000	9,970	4,980	10,400	10,200	10,500	12,700
29	10,400	10,700	11,200	8,760	8,420	12,000	9,820	7,160	10,600	9,250	10,500	12,800
30	9,530	11,300	11,400	7,020	-	12,000	9,870	7,940	10,300	8,280	10,500	11,900
31	9,310	-	11,300	8,770	-	12,500	-	7,760	-	9,360	10,500	-
Month					Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet			
October.....					324,000	11,400	9,200	10,450	642,600			
November.....					345,050	13,200	9,420	11,500	684,400			
December.....					346,410	12,100	9,350	11,170	687,100			
Calendar year 1939.....					4,191,560	31,100	4,760	11,480	8,314,000			
January.....					344,150	12,600	7,020	11,100	682,600			
February.....					236,730	9,250	6,470	9,163	469,500			
March.....					299,540	12,500	5,500	9,663	594,100			
April.....					315,600	17,200	7,000	10,520	626,000			
May.....					280,650	10,100	4,980	9,053	556,700			
June.....					272,360	11,500	5,190	9,079	540,200			
July.....					323,190	11,600	8,280	10,430	641,000			
August.....					330,250	11,700	8,540	10,650	656,000			
September.....					343,260	12,800	9,640	11,440	680,800			
Water year 1939-40.....					3,761,190	17,200	4,980	10,280	7,460,000			

c Slope-stage-discharge relation unstable; discharge computed on basis of records for stations below Boulder Dam and below Parker Dam, and on changes in contents of Lake Navajo.

COLORADO RIVER MAIN STEM

Lake Havasu near Parker Dam, Ariz.-Calif.

Location.- Water-stage recorder, lat. 34°19', long. 114°09', in SW¼ sec. 28, T. 3 N., R. 27 E., San Bernardino meridian, at intake pumping plant of Metropolitan Water District of Southern California, 1.8 miles upstream from Parker Dam on Colorado River, which is 156 miles downstream from Boulder Dam. Datum of gage is 407.54 feet above mean sea level (general adjustment of 1929), 400.00 feet above mean sea level (general adjustment of 1912), or 400.83 feet above mean sea level (datum of Metropolitan Water District of Southern California); gage readings have been reduced to elevation above mean sea level (general adjustment of 1929).

Drainage area.- 178,800 square miles at Parker Dam (revised).

Records available.- July 1938 to September 1940.

Extremes.- Maximum contents during year, 555,400 acre-feet Apr. 6 (elevation of water surface, 444.64 feet); minimum, 470,900 acre-feet Aug. 2 (elevation, 440.52 feet). 1938-40: Maximum contents, 622,500 acre-feet Sept. 7, 1939 (elevation of water surface, 447.72 feet).

Remarks.- Lake is formed by concrete-arch dam; dam completed and storage began July 1, 1938. Usable capacity, 688,000 acre-feet, between elevations 400.54 feet (sill of regulating gates) and 450.54 feet (top of regulating gates) above mean sea level. Dead storage, 28,600 acre-feet below elevation 400.54 feet. Drawdown below elevation 440.54 feet (contents 472,000 acre-feet) not legally permissible except in an extreme emergency. Lake is used for flood control, for re-regulation of river for irrigation demand, and as a basin from which water is pumped by Metropolitan Water District of Southern California to Colorado River aqueduct (see p. 215). Figures given herein represent usable contents.

Elevation, in feet, at 12 p.m. mountain standard time, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	443.98	442.72	442.86	442.94	442.38	442.54	443.02	441.78	443.94	440.94	440.56	440.96
2	443.40	442.78	442.92	443.00	442.44	442.54	443.10	441.70	443.82	440.96	440.56	440.94
3	442.88	442.86	442.96	443.06	442.56	442.46	443.56	441.72	443.58	440.84	440.62	441.04
4	442.66	443.00	442.90	443.16	442.64	442.20	443.92	441.72	443.00	440.94	440.84	440.98
5	442.66	443.08	442.82	443.26	442.60	441.90	444.46	441.76	442.50	440.92	440.74	440.84
6	442.62	443.06	442.90	443.30	442.34	441.82	444.48	441.72	442.10	440.92	440.76	440.76
7	442.64	443.00	442.96	443.28	442.28	441.84	444.16	441.76	441.74	440.86	440.78	440.80
8	442.68	443.08	442.98	443.24	442.22	441.78	443.72	441.80	441.40	440.82	440.88	440.92
9	442.64	443.12	442.98	443.14	442.24	441.70	443.16	441.82	441.44	440.76	440.96	440.88
10	442.64	443.24	442.96	443.12	442.24	441.66	442.78	441.80	441.50	440.74	441.04	440.60
11	442.54	443.40	442.86	443.12	442.30	441.66	442.36	441.82	441.54	440.74	441.18	440.68
12	442.54	443.48	442.88	443.08	442.42	441.62	442.04	441.84	441.72	440.74	441.22	440.78
13	442.50	443.32	442.94	443.08	442.52	441.50	441.76	441.88	441.80	440.74	441.12	440.90
14	442.50	443.12	442.84	442.88	442.52	441.44	441.66	441.98	441.80	440.84	441.14	441.04
15	442.50	443.14	442.84	442.72	442.66	441.30	441.66	441.90	441.76	440.84	441.18	441.20
16	442.40	443.24	442.86	442.62	442.66	441.24	441.60	441.86	441.90	440.82	441.28	441.30
17	442.24	443.38	442.88	442.48	442.68	441.36	441.66	441.86	441.80	440.80	441.34	441.38
18	442.26	443.62	442.84	442.70	442.72	441.42	441.70	441.84	441.74	440.84	441.30	441.30
19	442.38	443.64	442.74	442.94	442.56	441.52	441.76	441.88	441.66	440.84	441.18	441.28
20	442.52	443.56	442.74	443.14	442.40	441.64	441.76	442.14	441.58	440.94	440.98	441.26
21	442.64	443.48	442.72	442.92	442.40	441.80	441.72	442.64	441.52	441.10	440.82	441.26
22	442.74	443.54	442.72	442.96	442.42	441.88	441.70	443.02	441.42	441.14	440.90	441.26
23	442.72	443.64	442.74	442.92	442.46	442.06	441.64	443.56	441.32	441.12	440.76	441.20
24	442.62	443.62	442.78	442.70	442.46	442.22	441.62	443.66	441.20	441.08	440.78	441.04
25	442.74	443.42	442.68	442.68	442.44	442.38	441.64	443.84	441.08	441.04	440.78	440.96
26	442.78	443.22	442.58	442.68	442.42	442.50	441.62	444.02	440.92	441.08	440.82	440.94
27	442.84	443.00	442.48	442.70	442.34	442.62	441.66	444.18	440.80	441.04	440.86	440.94
28	442.86	442.80	442.52	442.68	442.48	442.78	441.72	444.04	440.80	440.96	440.86	441.02
29	442.88	442.78	442.64	442.60	442.52	442.76	441.74	444.04	440.88	440.84	440.90	441.06
30	442.80	442.82	442.76	442.28	442.46	442.84	441.80	444.08	440.90	440.86	440.88	440.96
31	442.72	-	442.66	442.26	-	442.82	-	444.10	-	440.58	440.84	-

Usable contents at 12 p.m., in thousands of acre-feet, of Lake Havasu near Parker Dam, Ariz.-Calif. water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	541.5	515.3	518.2	519.9	508.1	511.3	521.6	496.3	540.9	479.5	471.9	479.7
2	529.4	516.3	519.3	521.2	509.3	511.5	523.0	494.7	538.4	479.7	471.9	479.3
3	518.6	518.2	520.3	522.2	511.9	509.7	528.5	494.9	533.3	479.5	473.1	481.5
4	514.0	521.2	518.8	524.5	513.4	504.5	540.3	495.1	521.0	479.3	471.5	479.9
5	513.8	522.8	517.2	526.4	512.6	496.7	551.6	495.7	510.5	478.9	475.3	477.3
6	513.2	522.4	518.8	527.5	507.5	496.9	552.0	495.1	502.5	478.9	475.7	475.7
7	513.6	521.2	520.3	527.0	506.5	497.5	545.5	495.9	495.3	477.9	476.3	476.5
8	514.4	522.6	520.7	526.2	505.1	496.3	556.3	496.7	488.5	476.9	478.1	478.9
9	513.6	523.7	520.5	524.1	508.3	494.7	524.5	497.1	489.5	475.9	479.9	478.3
10	511.5	526.0	520.1	523.7	505.5	493.7	516.5	496.7	490.7	476.5	481.5	472.7
11	511.3	529.4	518.0	523.7	506.7	493.7	507.9	497.1	491.5	475.5	484.3	474.3
12	511.3	531.2	518.4	522.6	508.9	493.1	501.5	497.5	494.9	475.5	485.1	476.3
13	510.7	527.7	519.7	522.8	511.1	490.7	495.9	498.1	496.5	475.5	483.1	478.5
14	510.5	523.7	517.8	518.6	510.9	489.3	491.9	498.1	496.5	477.5	483.3	481.5
15	510.5	523.9	517.8	515.1	514.0	486.7	491.9	498.5	495.9	477.5	484.3	484.7
16	508.7	526.2	518.2	511.1	513.8	485.5	492.5	497.9	496.5	477.1	486.3	486.7
17	505.5	528.9	518.4	510.3	514.4	487.9	493.7	497.9	496.5	476.7	487.5	488.1
18	505.9	532.1	517.6	514.9	515.1	489.1	494.5	497.5	495.5	477.5	486.7	486.7
19	508.1	534.4	515.5	519.9	511.9	491.1	495.9	498.1	493.9	477.5	484.1	486.1
20	510.9	532.9	515.5	523.9	508.5	493.1	495.9	503.5	492.1	479.5	480.1	485.7
21	513.4	531.2	515.1	519.5	508.7	496.5	495.1	513.6	490.9	482.5	476.9	485.9
22	515.7	532.5	516.1	520.3	509.1	496.3	494.5	521.6	488.9	483.5	476.7	485.9
23	515.1	534.6	515.7	519.3	509.7	501.9	493.5	528.7	487.1	482.9	475.9	484.7
24	513.0	534.0	516.3	514.9	509.9	506.1	493.1	534.8	484.5	482.3	475.7	481.5
25	515.5	530.0	514.4	514.2	509.5	508.1	493.3	538.8	482.1	481.5	476.3	479.9
26	516.5	525.8	512.3	514.4	509.1	510.5	492.9	542.6	478.9	482.1	477.1	479.5
27	517.6	521.2	510.1	514.9	507.5	513.2	493.9	545.7	476.7	481.3	477.7	479.5
28	518.0	516.8	510.9	514.4	510.1	516.5	494.9	543.0	476.7	479.9	477.7	480.9
29	518.4	516.3	513.4	510.7	510.9	515.1	495.5	543.0	478.1	477.3	478.5	481.9
30	517.0	517.2	515.9	506.1	-	517.8	496.5	543.8	478.7	473.7	478.1	479.7
31	515.1	-	518.2	505.9	-	517.4	-	544.0	-	472.1	477.5	-

Note.- Contents show storage above sill of regulating gates.

Monthly elevation and contents, water year October 1939 to September 1940.

Date	Elevation (feet)†	Usable Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30.....	444.42	550,800	-
Oct. 31.....	442.72	515,100	-35,700
Nov. 30.....	442.82	517,200	+2,100
Dec. 31.....	442.86	518,200	+1,000
Calendar year 1939.....	-	-	+36,700
Jan. 31.....	442.26	505,900	-12,300
Feb. 29.....	442.52	510,900	+5,000
Mar. 31.....	442.82	517,400	+6,500
Apr. 30.....	441.80	496,500	-20,900
May 31.....	444.10	544,000	+47,500
June 30.....	440.90	478,700	-65,300
July 31.....	440.58	472,100	-6,600
Aug. 31.....	440.84	477,500	+5,400
Sept. 30.....	440.96	479,700	+2,200
Water year 1939-40.....	-	-	-71,100

†Elevation at midnight.

COLORADO RIVER MAIN STEM

Colorado River below Parker Dam, Ariz.-Calif.

Location.— Water-stage recorder, lat. 34°15'30", long. 114°09'10", in NE¼ sec. 32, T. 11 N., R. 18 W., Gila and Salt River meridian, or NE¼SW¼ sec. 16, T. 2 N., R. 27 E., San Bernardino meridian, 4.1 miles downstream from Parker Dam, 11 miles northeast of Parker, Ariz., and 160 miles downstream from Boulder Dam. Datum of gage is 346.16 feet (general adjustment of 1929) or 345.61 feet (general adjustment of 1912) above mean sea level.

Drainage area.— 178,800 square miles (revised).

Records available.— February to December 1934 (gage heights and fragmentary discharge records), January 1935 to September 1940.

Extremes.— Maximum discharge during year, 20,100 second-feet Apr. 3 (gage height, 25.14 feet); minimum, 275 second-feet Feb. 13 (gage height, 14.93 feet); minimum daily, 4,860 second-feet May 21.

1935-40 (regulated): Maximum discharge, 42,400 second-feet Feb. 8, 1937; minimum, 250 second-feet July 1, 1938, caused by closure of construction diversion tunnel at Parker Dam; minimum daily, 1,440 second-feet Feb. 15, 1935.

An unregulated discharge of probably less than 1,350 second-feet occurred Aug. 19, 1934 (lowest unregulated discharge since 1917 and probably since a much earlier date).

Remarks.— Records excellent. Diversions above station for irrigation. Flow regulated at Boulder and Parker Dams. Records computed on basis of mountain standard time. Water spilled from Gene Reservoir on Colorado River aqueduct returned to Lake Havasu above station; water spilled from Copper Basin Reservoir returned to river 2 miles below station; some water probably returned to river both above and below station by percolation from both reservoirs. During the year 167 discharge measurements were made.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14,700	10,100	11,000	9,800	8,760	7,400	11,700	9,450	7,960	9,760	9,660	10,100
2	14,600	10,100	10,900	9,780	8,780	7,400	15,200	9,450	7,940	9,890	9,640	10,500
3	14,300	9,920	10,600	9,970	8,960	7,400	14,600	9,450	8,040	10,300	9,700	10,600
4	12,700	10,100	11,000	10,400	9,490	7,400	11,300	9,450	10,100	10,300	9,740	10,500
5	11,400	10,200	11,000	11,300	9,400	7,380	11,500	9,450	10,900	10,400	9,800	10,300
6	11,200	10,200	11,000	11,800	8,860	7,380	11,600	9,450	11,000	10,300	9,800	10,300
7	10,800	10,000	10,800	12,000	8,340	7,400	11,500	9,450	10,900	10,300	10,100	10,100
8	10,800	10,500	11,000	12,000	8,240	7,400	11,300	9,470	10,900	10,300	9,740	10,000
9	10,800	10,400	11,000	11,900	7,820	7,720	11,200	9,490	11,000	10,300	9,640	9,930
10	10,800	10,600	11,000	11,900	7,800	8,140	11,200	9,510	11,100	10,400	9,680	10,200
11	10,500	10,500	11,000	11,900	7,700	8,120	11,200	9,530	10,700	10,400	9,700	10,100
12	10,300	10,900	8,870	11,900	6,180	8,140	10,800	9,550	9,220	10,400	9,740	17,100
13	10,300	10,900	10,200	11,800	7,180	8,380	9,820	9,550	9,010	10,400	10,200	16,100
14	10,300	10,900	12,400	11,800	8,960	8,380	9,800	9,550	8,900	10,300	10,600	10,100
15	10,300	10,900	11,200	11,700	6,480	8,600	9,780	9,550	8,920	10,200	10,600	10,200
16	10,300	10,900	11,200	11,800	8,610	9,150	9,760	9,550	8,920	10,200	10,600	10,200
17	10,300	10,800	11,300	11,600	7,460	9,300	9,760	9,570	8,920	10,200	10,600	10,800
18	10,300	10,900	11,300	9,660	7,480	9,400	9,760	9,560	9,050	10,200	10,600	11,700
19	10,100	11,100	11,300	12,100	7,460	9,400	9,560	9,570	9,610	10,200	10,600	12,100
20	9,770	11,200	11,300	10,300	7,440	9,400	9,280	7,700	9,490	10,200	10,500	12,100
21	9,750	11,200	11,000	13,900	7,440	9,430	9,300	4,860	9,490	10,200	10,500	12,100
22	9,840	11,600	10,800	10,100	7,460	9,700	9,300	5,020	9,550	10,200	10,500	12,200
23	10,100	11,900	10,800	10,400	7,460	9,910	9,320	5,020	9,590	10,200	10,400	12,300
24	10,200	11,900	10,700	13,200	7,440	9,910	9,340	4,990	9,700	10,200	10,200	12,100
25	10,000	11,800	10,800	11,600	7,460	9,890	9,360	4,950	9,760	9,850	10,000	12,100
26	9,960	11,800	10,600	11,200	7,110	9,950	9,380	4,970	9,720	9,550	10,100	12,100
27	9,980	11,800	10,200	11,000	7,520	9,970	9,380	4,900	9,720	9,620	10,100	12,100
28	10,000	11,400	9,920	10,800	7,480	10,200	9,400	5,870	9,820	9,680	10,100	12,200
29	9,980	10,800	9,540	10,400	7,460	10,800	9,430	6,920	9,780	9,720	10,100	12,200
30	9,940	10,900	9,620	8,620	-	10,800	9,450	7,000	9,760	9,700	10,100	12,200
31	9,960	-	9,710	8,720	-	11,100	-	7,220	-	9,680	10,100	-

Month	Observed					Return surface flow from Copper Basin Reservoir (acre-feet)	Adjusted for return surface flow from Copper Basin Reservoir (acre-feet)
	Second-foot-days	Discharge in second-feet			Run-off in acre-feet		
		Maximum	Minimum	Mean			
October.....	334,280	14,700	9,750	10,780	663,000	0	663,000
November.....	325,820	11,900	9,920	10,860	646,300	0	646,300
December.....	333,060	12,400	8,870	10,740	660,600	0	660,600
Calendar year 1939.....	4,243,690	33,200	2,610	11,630	8,417,000	0	8,417,000
January.....	343,340	13,900	8,620	11,080	681,000	10,820	691,800
February.....	228,210	9,490	6,180	7,869	452,600	6,450	459,000
March.....	274,950	11,100	7,380	8,869	545,400	0	545,400
April.....	314,250	16,200	9,280	10,480	623,300	0	623,300
May.....	249,990	9,570	4,860	8,064	495,800	0	495,800
June.....	289,370	11,100	7,940	9,646	574,000	0	574,000
July.....	313,550	10,400	9,550	10,110	621,900	0	621,900
August.....	313,440	10,600	9,640	10,110	621,700	0	621,700
September.....	331,630	12,300	9,930	11,050	657,800	0	657,800
Water year 1939-40.....	3,651,890	15,200	4,860	9,978	7,243,000	17,270	7,261,000

Colorado River near Picacho, Calif.

Location.- Water-stage recorder, lat. 33°02'00", long. 114°33'00", in NW¼ sec. 22, T. 13 S., R. 23 E., San Bernardino meridian, 4 miles downstream from Picacho, 14½ miles upstream from Imperial Dam (for All-American canal), 133 miles downstream from Parker Dam, and 289 miles downstream from Boulder Dam. Datum of gage is 167.38 feet above mean sea level (general adjustment of 1929).

Drainage area.- 184,100 square miles (revised).

Records available.- July 1934 to September 1940.

Extremes.- Maximum discharge during year, 15,400 second-feet Apr. 4; maximum elevation, 185.85 feet sometime during period Sept. 20-30; minimum discharge, 3,800 second-feet May 29; minimum daily, 3,930 second-feet May 28, 29; minimum elevation, 162.80 feet Oct. 14.

1935-40 (regulated): Maximum discharge, 40,800 second-feet Sept. 5, 1939 (elevation, 186.13 feet); minimum, 990 second-feet July 4, 1938; minimum daily, 1,450 second-feet Feb. 17, 1935.

For a period extending back to 1902 or longer, an unregulated minimum discharge of 538 second-feet and an unregulated minimum daily discharge of 568 second-feet both occurred Aug. 3, 1934.

Remarks.- Records good. Diversions above station for irrigation. Flow regulated at Boulder Dam since Feb. 1, 1935, and at Parker Dam since July 1, 1938. Records computed on basis of mountain standard time. Elevation of spillway crest of Imperial Dam, 181.0 feet. Normal operating level of Imperial Reservoir, 179.5 feet.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.		
1	12,000	9,620	10,600	9,530	9,740	7,010	10,100	8,450	6,260	8,500	8,000	8,920		
2	14,000	9,680	10,800	9,530	9,890	7,150	10,500	8,400	6,800	8,450	7,900	9,160		
3	14,400	9,750	10,700	9,580	9,580	7,150	11,400	8,320	7,320	8,320	8,000	9,360		
4	14,000	9,620	10,600	9,530	9,280	7,150	14,400	8,320	7,160	8,360	8,100	9,510		
5	13,300	9,750	10,600	9,840	9,430	7,190	11,000	8,400	7,240	8,730	8,200	9,360		
6	11,200	9,820	10,800	10,200	9,530	7,150	10,600	8,590	9,310	8,730	8,500	9,160		
7	10,500	9,820	10,500	10,900	9,230	6,970	10,900	8,400	9,510	8,680	8,200	8,920		
8	10,400	9,750	10,600	11,400	8,250	6,940	11,000	8,400	9,560	8,680	8,180	8,830		
9	10,400	10,200	10,800	11,500	7,990	6,870	10,800	8,320	9,560	8,680	8,270	8,830		
10	10,400	10,200	10,900	11,500	7,830	6,800	10,500	8,320	9,560	8,640	8,220	8,780		
11	10,400	10,100	11,100	11,600	7,660	7,060	10,100	8,270	9,510	8,640	8,180	8,730		
12	10,300	10,100	11,000	11,700	7,460	7,420	9,970	8,360	9,510	8,640	8,180	9,020		
13	9,820	10,200	10,500	11,600	7,500	7,500	9,920	8,450	8,500	8,600	8,090	8,870		
14	9,680	10,600	10,400	11,600	7,350	7,740	9,410	8,320	7,660	8,700	8,000	8,870		
15	9,750	10,600	10,700	11,600	7,700	8,030	8,830	8,270	7,740	8,700	8,400	9,210		
16	9,750	10,800	11,400	11,500	7,230	8,060	8,970	8,320	7,330	8,700	8,830	9,310		
17	9,680	10,800	11,400	11,500	7,540	8,210	8,920	8,270	8,090	8,600	8,730	9,460		
18	9,750	10,700	11,500	11,500	7,120	8,390	8,920	8,540	8,040	8,500	8,530	9,920		
19	9,750	10,800	11,400	10,300	7,080	8,390	8,920	8,590	7,870	8,500	8,630	10,100		
20	9,620	10,900	11,300	9,790	7,230	8,340	8,920	8,540	8,000	8,500	8,920	10,700		
21	9,490	11,100	11,200	9,530	7,310	8,480	8,870	8,400	8,450	8,500	8,830	11,000		
22	9,750	11,000	11,000	10,700	7,420	8,660	8,970	5,990	8,400	8,600	8,870	11,100		
23	9,880	10,900	10,800	10,800	7,060	8,750	8,970	4,030	8,450	8,700	8,780	11,200		
24	9,550	11,200	10,800	9,480	7,120	9,090	8,680	4,100	8,450	8,700	8,870	11,200		
25	9,750	11,200	10,600	10,500	7,120	9,380	8,360	4,130	8,450	8,500	8,920	10,900		
26	9,680	11,300	10,800	12,300	7,120	9,330	8,320	4,060	8,360	8,600	8,920	10,800		
27	9,490	11,400	10,500	11,900	7,050	9,380	8,360	3,970	8,360	8,200	8,870	10,700		
28	9,490	11,500	10,200	11,500	6,970	9,530	8,540	2,930	8,400	7,900	8,920	10,700		
29	9,620	11,700	9,950	11,200	6,900	9,580	8,590	3,930	8,400	8,000	8,970	10,900		
30	9,490	11,200	9,620	11,100	-	9,790	8,540	4,810	8,400	8,200	8,870	10,900		
31	9,360	-	9,420	10,400	-	10,000	-	6,140	-	8,000	8,680	-		
Month					Second-foot-days		Maximum		Minimum		Mean		Run-off in acre-feet	
October.....					324,650		14,400		9,360		10,470		643,900	
November.....					316,310		11,700		9,620		10,540		627,400	
December.....					332,490		11,500		9,420		10,730		659,500	
Calendar year 1939.....					3,952,790		27,400		3,230		10,830		7,840,000	
January.....					335,610		12,300		9,480		10,830		665,700	
February.....					228,710		9,890		6,900		7,887		458,600	
March.....					251,530		10,000		6,300		8,114		498,900	
April.....					290,280		14,400		8,320		9,676		575,800	
May.....					221,340		8,590		3,930		7,140		439,000	
June.....					249,150		9,560		6,260		8,305		494,200	
July.....					263,750		8,730		7,900		8,508		523,100	
August.....					263,860		8,970		7,900		8,512		523,400	
September.....					294,420		11,200		8,730		9,514		584,000	
Water year 1939-40.....					3,372,100		14,400		3,930		9,213		6,688,000	

Note.- Discharge for periods of no gage-height record, July 17 to Aug. 7, Sept. 20-30, computed on basis of recorded range of stage and records for stations below Parker Dam and at Yuma, taking into account diversions from the river between stations and changes in content in Imperial Reservoir.

Colorado River at Yuma, Ariz.

Location.- Water-stage recorder, lat. 32°43'45", long. 114°37'15", in NW¼NE¼ sec. 35, T. 16 S., R. 22 E., San Bernardino meridian, 1,600 feet downstream from highway bridge at Yuma, 5 miles downstream from Gila River, 7 miles upstream from international boundary at California-Mexico line, and 19 miles downstream from Imperial Dam. Datum of gage is 102.79 feet (general adjustment of 1912 and 1929), or 102.25 feet (Yuma project datum) above mean sea level (subject to correction due to undetermined changes caused by earthquake of May 18, 1940).

Drainage area.- 242,900 square miles (revised).

Records available.- April 1878 to December 1901 (gage heights only), January 1902 to September 1940.

Extremes.- Maximum discharge during year, 13,800 second-feet Jan. 16; maximum gage height, 20.56 feet Oct. 3; minimum discharge, 3,060 second-feet May 31 (gage height, 15.15 feet), caused by regulation at Laguna Dam; minimum daily, 3,220 second-feet May 31. 1902-40: Maximum discharge, 250,000 second-feet Jan. 22, 1916 (gage height, 34.0 feet); minimum daily, 18 second-feet Aug. 25-27, 1934, caused by diversion of river flow at Laguna Dam.

Remarks.- Records excellent. Many diversions for irrigation from Colorado River and tributaries. All-American canal diverted some water at Imperial Dam, 19 miles upstream, in September (see pp. 31-32). None was returned to river this year through Pilot Knob wasteway 7 miles downstream. Yuma main canal diverts water at Laguna Dam, 14 miles upstream, and that part of the diverted water not used for irrigation is returned through Yuma main canal wasteway half a mile downstream (see pp. 33-35 for records of canal and wasteway). Flow of Colorado River regulated at Boulder, Parker, and Imperial Dams. No regulation on Gila River below Gillespie Dam. Records computed on basis of mountain standard time. During the year 215 discharge measurements were made.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9,760	7,690	9,600	7,630	8,110	5,270	8,170	6,720	3,790	6,170	6,270	6,710
2	11,600	7,690	9,110	7,630	8,090	5,490	8,410	7,740	3,960	6,150	6,220	6,650
3	12,900	7,770	9,020	7,500	8,510	5,170	8,610	6,780	4,100	6,380	6,580	6,660
4	12,200	7,970	9,230	7,660	8,410	5,190	10,090	6,870	4,810	6,220	5,800	7,020
5	12,300	7,940	9,050	7,770	7,880	5,130	12,020	6,630	5,050	6,130	6,130	7,440
6	11,400	7,940	8,860	8,540	7,940	5,090	8,220	6,690	5,110	6,430	5,970	7,590
7	9,570	7,830	9,260	8,960	9,250	5,090	8,940	6,650	4,840	6,360	6,290	7,430
8	9,050	8,080	9,170	9,820	8,430	5,080	8,580	6,700	4,740	6,340	6,360	7,230
9	8,870	8,080	9,080	10,100	7,230	5,130	9,010	6,670	4,970	6,250	6,290	7,060
10	8,780	8,540	8,840	10,100	6,470	5,160	9,090	6,450	5,050	6,510	6,180	7,020
11	8,280	8,660	9,050	9,910	6,330	5,160	8,840	6,450	5,190	6,600	6,230	6,840
12	8,750	8,540	9,570	10,000	6,440	5,190	8,430	6,420	5,270	6,560	6,200	6,770
13	8,200	8,310	9,200	10,400	5,780	5,780	8,370	6,270	5,450	6,190	6,040	6,610
14	8,030	8,490	8,310	10,300	5,370	5,830	8,290	6,290	5,780	6,290	6,090	7,030
15	8,260	8,960	8,260	11,000	5,110	5,840	7,330	6,380	6,100	6,540	6,060	6,960
16	8,140	8,840	8,520	13,700	5,250	5,880	6,900	6,340	5,540	6,540	6,140	7,020
17	8,080	8,660	9,440	13,300	5,240	6,030	6,940	6,400	5,670	6,580	6,960	7,010
18	7,910	8,780	9,320	12,700	5,290	6,430	7,060	6,310	5,570	6,450	7,250	7,020
19	8,430	9,050	9,540	12,000	5,350	6,560	7,010	6,250	6,150	6,270	7,110	7,490
20	8,030	9,200	9,540	9,760	5,250	6,720	6,990	6,560	6,120	6,610	7,090	7,710
21	8,000	9,140	9,320	8,490	5,290	6,720	7,080	6,490	6,050	6,790	7,100	8,230
22	8,000	9,140	9,260	7,630	5,270	6,700	6,760	5,860	5,840	6,880	7,070	8,540
23	7,520	9,350	8,990	4,060	5,300	6,830	6,830	3,650	5,860	6,610	6,940	8,280
24	7,390	9,230	8,990	3,840	5,270	6,780	6,970	4,340	6,250	6,600	6,870	8,240
25	7,630	9,630	9,350	3,740	5,190	7,140	6,900	4,680	6,060	6,700	6,870	8,320
26	7,970	9,820	9,510	5,710	5,090	7,250	6,330	5,570	6,060	6,540	6,950	8,590
27	8,030	9,790	9,200	11,100	5,160	7,210	6,400	5,570	6,050	6,830	6,980	8,520
28	7,890	10,000	8,990	10,700	5,350	7,140	6,510	5,300	5,930	6,380	6,960	8,340
29	7,860	9,850	8,490	10,700	5,330	7,210	6,690	4,360	5,740	5,910	6,860	8,400
30	7,720	9,940	8,030	10,700	-	7,610	6,650	3,990	5,840	6,000	6,720	8,410
31	7,660	-	7,910	10,200	-	7,670	-	3,220	-	6,200	6,840	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	274,210	12,900	7,390	8,845	543,900
November.....	262,910	10,000	7,690	8,764	521,600
December.....	280,110	9,600	7,910	9,036	556,600
Calendar year 1939.....	3,305,840	24,800	2,030	9,057	6,667,000
January.....	285,650	13,700	3,740	9,215	566,600
February.....	181,960	8,510	5,090	6,274	360,900
March.....	189,490	7,670	5,080	6,113	375,800
April.....	235,130	12,020	6,330	7,836	466,400
May.....	183,600	6,870	3,220	5,923	364,200
June.....	162,910	6,250	3,790	5,430	323,100
July.....	199,160	6,880	5,910	6,425	396,000
August.....	203,420	7,250	5,800	6,562	403,500
September.....	225,120	8,540	6,650	7,504	446,500
Water year 1939-40.....	2,683,670	13,700	3,220	7,332	5,323,000

All-American canal near Imperial Dam, Calif.

Location.- Water-stage recorder, lat. $32^{\circ}52'10''$, long. $114^{\circ}28'48''$, in $SE\frac{1}{4}$ sec. 17, T. 15 S., R. 24 E., San Bernardino meridian, on left bank, 6,000 feet downstream from canal intake at Imperial Dam. Datum of gage is 150.00 feet above mean sea level (general adjustment of 1929, subject to correction due to undetermined changes caused by earthquake of May 18, 1940).

Records available.- October 1939 to September 1940.

Extremes.- Maximum discharge during year, 890 second-feet Sept. 27 (gage height, 9.20 feet); no flow Oct. 1 to Sept. 5.

Remarks.- Records excellent except those during period temporary staff gage was used, Sept. 6-15, which are fair. Flow passing this station is quantity available for irrigation on projects below, except for canal losses and wastes in Pilot Knob and Yuma main canal wasteways. This year water used only for canal priming.

Discharge, in second-feet, Sept. 6-30, 1940

Sept. 6	5	Sept. 11	8	Sept. 16	61	Sept. 21	544	Sept. 26	525
7	5	12	5	17	183	22	540	27	656
8	2	13	2	18	370	23	529	28	734
9	3	14	4	19	359	24	529	29	678
10	7	15	8	20	451	25	529	30	691

Monthly discharge, in second-feet, water year October 1939 to September 1940

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	0	0	0	0	0
November.....	0	0	0	0	0
December.....	0	0	0	0	0
Calendar year	-	-	-	-	-
January.....	0	0	0	0	0
February.....	0	0	0	0	0
March.....	0	0	0	0	0
April.....	0	0	0	0	0
May.....	0	0	0	0	0
June.....	0	0	0	0	0
July.....	0	0	0	0	0
August.....	0	0	0	0	0
September.....	7,428	734	0	248	14,730
Water year 1939-40.....	7,428	734	0	20.3	14,730

All-American canal above Pilot Knob wasteway, Calif.

Location.- Water-stage recorder, lat. $32^{\circ}45'$, long. $114^{\circ}42'$, in $SE\frac{1}{4}$ sec. 24, T. 16 S., R. 21 E., San Bernardino meridian, at bridge on U. S. Highway 80, 1 mile upstream from Pilot Knob wasteway, $5\frac{1}{2}$ miles northwest of Yuma, and $19\frac{1}{2}$ miles downstream from head at Imperial Dam. Datum of gage is 145.49 feet above mean sea level (general adjustment of 1929, subject to correction due to undetermined changes caused by earthquake of May 18, 1940).

Records available.- October 1938 to September 1940.

Extremes.- Maximum discharge during year, 565 second-feet Sept. 28 (gage height, 4.46 feet); no flow Oct. 1 to Sept. 17.
1938-40: Maximum discharge, 707 second-feet Sept. 23, 1939; maximum gage height, 6.22 feet Sept. 11, 1939; no flow during most of period.

Remarks.- Records good. Flow past this station less flow past station below Pilot Knob wasteway is flow wasted through Pilot Knob wasteway, except for canal losses. This year there was no flow through Pilot Knob wasteway except negligible leakage. All flow in canal was used for priming purposes.

Discharge, in second-feet, Sept. 8-30, 1940

Sept. 18	20	Sept. 23	336	Sept. 27	368
19	130	24	336	28	540
20	188	25	343	29	487
21	303	26	347	30	503
22	333				

Monthly discharge, in second-feet, water year October 1939 to September 1940

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
Calendar year 1939.....	13,534	650	0	37.1	26,850
September.....	4,234	540	0	141	8,400
Water year 1939-40.....	4,234	540	0	11.6	8,400

Note.- No flow Oct. 1 to Sept. 17.

All-American canal below Pilot Knob wasteway, Calif.

Location.- Water-stage recorder, lat. 32°43', long. 114°44', in SW¼ (revised) sec. 35, T. 16 S., R. 21 E., San Bernardino meridian, 1.6 miles downstream from Pilot Knob wasteway, 6½ miles west of Yuma, and 22 miles downstream from head at Imperial Dam. Datum of gage is 147.70 feet above mean sea level (general adjustment of 1923, subject to correction due to undetermined changes caused by earthquake of May 18, 1940).

Records available.- April 1939 to September 1940.

Extremes.- Maximum discharge during year, 527 second-feet Sept. 28 (gage height, 3.71 feet); no flow Oct. 1 to Sept. 19.
1939-40: Maximum discharge, 627 second-feet Sept. 23, 1939 (gage height, 3.92 feet); no flow during most of each year.

Remarks.- Records excellent. Water passing this station is quantity available for irrigation in Imperial and Coachella Valleys except for canal losses.

Discharge, in second-feet, Sept. 20-30, 1940

Sept. 20	96	Sept. 24	300	Sept. 28	488
21	247	25	303	29	461
22	290	26	308	30	471
23	298	27	322		

Monthly discharge, in second-feet, October 1939 to September 1940

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	0	0	0	0	0
November.....	0	0	0	0	0
December.....	0	0	0	0	0
Calendar year 1939.....	1,745	577	0	4.8	3,460
January.....	0	0	0	0	0
February.....	0	0	0	0	0
March.....	0	0	0	0	0
April.....	0	0	0	0	0
May.....	0	0	0	0	0
June.....	0	0	0	0	0
July.....	0	0	0	0	0
August.....	0	0	0	0	0
September.....	3,584	488	0	119	7,110
Water year 1939-40.....	3,584	488	0	9.8	7,110

Yuma main canal at siphon-drop power plant, near Yuma, Ariz.

Location.— Two gages, consisting of staff gage on forebay and water-stage recorder on tailrace at power plant, lat. $32^{\circ}46'30''$, long. $114^{\circ}38'00''$, in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 10, T. 16 S., R. 22 E., San Bernardino meridian, 500 feet downstream from turnout in All-American canal to Yuma main canal, $\frac{3}{4}$ miles north of Yuma, and $10\frac{1}{2}$ miles downstream from head of Yuma main canal at Laguna Dam. Datum of each gage is at mean sea level (Yuma project datum) or 0.70 foot above mean sea level (general adjustment of 1928), subject to correction due to undetermined changes caused by earthquake of May 18, 1940.

Records available.— October 1938 to September 1940.

Remarks.— Records excellent. Daily discharge determined from flow through turbines, computed from relation between discharge, head, and gate openings, to which is added small discharge bypassed around power plant through waste gates. Bypassed discharge computed on basis of gage readings at forebay, and record of gate openings, by orifice formula. Rating of turbines checked by current-meter measurements. Records show quantity of water available for irrigation on Valley division of Yuma project and that available for spill through Yuma main canal wasteway $\frac{3}{4}$ miles downstream.

Cooperation.— Record of gage heights at forebay and of turbine gate openings furnished by Bureau of Reclamation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	470	1,610	1,660	1,690	1,680	1,680	1,610	1,650	1,580	1,600	1,620	1,590
2	1,190	1,620	1,660	1,640	1,680	1,340	1,620	1,650	1,620	1,580	1,640	1,560
3	1,160	1,620	1,670	1,650	1,700	1,680	1,650	1,650	1,580	1,580	1,390	1,560
4	1,280	1,550	1,640	1,660	1,700	1,640	1,650	1,350	1,570	1,620	1,660	1,560
5	1,310	1,640	1,640	1,670	1,640	1,620	1,660	1,660	1,600	1,650	1,600	1,620
6	1,300	1,670	1,650	1,510	1,630	1,640	1,680	1,600	1,640	1,670	1,580	1,630
7	1,360	1,580	1,670	1,670	1,670	1,680	1,680	1,600	1,630	1,670	1,590	1,630
8	1,430	1,620	1,670	1,680	1,680	1,680	1,620	1,610	1,620	1,610	1,610	1,620
9	1,400	1,640	1,380	1,650	1,680	1,680	1,630	1,620	1,640	1,590	1,630	1,560
10	1,420	1,650	1,660	1,650	1,670	1,680	1,670	1,620	1,580	1,600	1,640	1,540
11	1,450	1,640	1,650	1,670	1,680	1,640	1,650	1,630	1,600	1,630	1,630	1,560
12	1,540	1,650	1,650	1,670	1,640	1,620	1,670	1,580	1,600	1,640	1,560	1,590
13	1,570	1,610	1,650	1,700	1,610	1,640	1,680	1,580	1,630	1,650	1,550	1,610
14	1,600	1,630	1,650	1,700	1,630	1,630	1,680	1,600	1,640	1,670	1,570	1,620
15	1,620	1,640	1,660	1,670	1,660	1,670	1,600	1,620	1,380	1,600	1,590	1,620
16	1,550	1,630	1,680	1,650	1,690	1,680	1,590	1,640	1,650	1,570	1,620	1,570
17	1,570	1,640	1,680	1,670	1,700	1,690	1,630	1,640	1,590	1,610	1,640	1,570
18	1,560	1,650	1,630	1,680	1,710	1,630	1,640	1,650	1,590	1,620	1,650	1,570
19	1,590	1,660	1,640	1,690	1,640	1,600	1,640	1,660	1,580	1,660	1,590	1,610
20	1,580	1,620	1,660	1,700	1,630	1,650	1,670	1,580	1,600	1,660	1,570	1,620
21	1,610	1,640	1,670	1,710	1,640	1,650	1,670	1,580	1,620	1,660	1,580	1,640
22	1,610	1,650	1,670	1,650	1,670	1,650	1,590	1,600	1,650	1,590	1,600	1,640
23	1,550	1,640	1,680	1,650	1,690	1,650	1,610	1,610	1,560	1,580	1,620	1,590
24	1,550	1,650	1,680	1,650	1,680	1,660	1,630	1,640	1,590	1,590	1,640	1,580
25	1,590	1,660	1,680	1,660	1,680	1,620	1,650	1,650	1,580	1,650	1,660	1,580
26	1,610	1,670	1,660	1,680	1,620	1,600	1,670	1,650	1,610	1,660	1,590	1,580
27	1,600	1,640	1,680	1,440	1,620	1,620	1,680	1,590	1,620	1,650	1,560	1,610
28	1,610	1,620	1,670	1,710	1,650	1,630	1,670	1,580	1,630	1,660	1,570	1,620
29	1,630	1,650	1,680	1,640	1,650	1,670	1,610	1,560	1,660	1,590	1,590	1,630
30	1,580	1,660	1,680	1,650	-	1,420	1,600	1,800	1,670	1,580	1,620	1,560
31	1,610	-	1,670	1,670	-	1,680	-	1,560	-	1,600	1,620	-
Month	Second-foot-days		Maximum		Minimum		Mean		Run-off in acre-feet			
October.....	45,500		1,630		470		1,468		90,250			
November.....	48,750		1,670		1,350		1,625		96,690			
December.....	51,270		1,680		1,380		1,654		101,700			
Calendar year 1939.....	580,277		1,780		0		1,590		1,151,000			
January.....	51,390		1,710		1,440		1,658		101,900			
February.....	48,220		1,710		1,610		1,663		95,640			
March.....	50,620		1,690		1,340		1,633		100,400			
April.....	49,300		1,680		1,590		1,643		97,790			
May.....	49,890		1,660		1,350		1,609		98,960			
June.....	48,180		1,670		1,380		1,606		95,560			
July.....	50,290		1,670		1,570		1,622		99,750			
August.....	49,580		1,660		1,390		1,599		98,340			
September.....	47,860		1,640		1,540		1,595		94,930			
Water year 1939-40.....	580,850		1,710		470		1,614		1,172,000			

Yuma main canal below Colorado River siphon, at Yuma, Ariz.

Location.- Two gages determine head on Colorado River siphon. At intake, water-stage recorder, lat. 32°43'45", long. 114°37'15", in SW¼SE¼ sec. 28, T. 16 S., R. 22 E., San Bernardino meridian, on California side of river, 500 feet downstream from Yuma main canal wasteway and 3 miles downstream from siphon-drop power plant. At outlet, water-stage recorder in NW¼NE¼ sec. 35, T. 16 S., R. 22 E., San Bernardino meridian, on Arizona side of river. Both gages are a quarter of a mile downstream from highway bridge over Colorado River at Yuma. Datum of each gage is 100.00 feet (Yuma project datum) or 100.54 feet (general adjustment of 1929) above mean sea level, subject to correction due to undetermined changes caused by earthquake of May 18, 1940.

Records available.- October 1938 to September 1940.

Remarks.- Records excellent except those below 300 second-feet, which are good. Daily discharge computed from relation between discharge and head on siphon, which is the difference between readings of stage at intake and outlet gages. Records show quantity of water delivered to Valley division of Yuma project for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	303	628	463	314	510	475	658	588	457	655	629	454
2	562	599	428	531	463	463	706	570	395	706	574	619
3	637	576	373	582	396	432	711	516	628	698	479	686
4	640	546	466	534	339	540	698	449	680	632	442	686
5	620	493	521	456	544	606	601	436	656	573	631	646
6	517	588	510	336	560	620	496	654	617	482	701	626
7	452	636	448	314	628	614	436	680	570	471	688	560
8	420	642	456	505	507	603	648	649	501	582	637	472
9	573	614	365	531	496	524	659	654	436	659	610	649
10	626	500	344	521	404	452	648	514	679	664	507	693
11	617	528	520	473	368	630	653	539	698	658	465	655
12	585	496	560	404	597	675	582	422	685	586	654	594
13	566	610	547	367	645	672	496	665	670	467	691	588
14	486	600	524	319	590	693	475	698	626	424	691	564
15	440	554	485	513	308	653	656	688	537	637	691	541
16	597	514	368	541	2	538	685	640	460	653	634	685
17	656	469	349	534	2	467	682	594	676	642	527	697
18	637	476	532	494	100	610	664	481	728	567	460	697
19	594	426	554	403	650	652	644	19	683	470	655	675
20	600	552	520	339	680	651	516	500	659	363	680	629
21	563	566	448	309	664	628	428	646	560	395	657	507
22	524	544	381	518	641	579	657	642	496	641	603	524
23	654	507	319	557	498	497	703	600	467	701	538	655
24	685	448	319	554	373	420	706	519	646	689	419	701
25	659	391	324	514	324	629	665	484	685	629	442	693
26	642	395	493	444	486	642	554	471	688	564	640	696
27	617	538	531	352	570	638	324	628	678	465	678	678
28	576	576	514	309	547	611	403	651	631	435	654	599
29	482	510	464	519	503	582	632	625	570	626	603	507
30	622	478	361	557	-	505	656	544	496	662	517	676
31	631	-	304	544	-	419	-	503	-	665	490	-
Month				Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet			
October.....				17,783		685	303	574	35,270			
November.....				16,120		642	361	537	31,970			
December.....				13,791		560	304	445	27,350			
Calendar year 1939.....				187,663		771	0	514	372,200			
January.....				14,188		582	309	458	28,140			
February.....				13,295		680	2	458	26,370			
March.....				17,720		693	419	572	35,150			
April.....				18,032		711	324	601	35,770			
May.....				17,368		699	19	566	34,450			
June.....				17,958		728	385	591	35,620			
July.....				18,041		706	363	587	35,780			
August.....				18,277		701	419	596	36,250			
September.....				18,632		701	454	621	36,960			
Water year 1939-40.....				201,195		728	2	550	399,100			

Arapaho Creek below Monarch Lake, Colo.

Location.- Water-stage recorder, lat. 40°18', long. 105°46', in SE¼ sec. 15, T. 2 N., R. 75 W., 700 feet downstream from Roaring Fork, 2½ miles downstream from outlet of Monarch Lake, and 10 miles east of Granby. Datum of gage is 8,244.30 feet above mean sea level (general adjustment of 1929).

Drainage area.- 59 square miles.

Records available.- June 1935 to September 1940.

Extremes.- Maximum discharge during year, 686 second-feet June 2 (gage height, 2.74 feet); minimum, 2.5 second-feet Jan. 13.
1934-40: Maximum discharge, 1,380 second-feet June 22, 1938 (gage height, 4.31 feet), from rating curve extended above 900 second-feet; minimum, that of Jan. 13, 1940.

Remarks.- Records good. Flow partly regulated by Monarch Lake. Small diversions above station for irrigation. Several second-feet diverted around station by power canal during summer.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	11	9.6	7.9	6.5	6.4	12	54	611	208	3?	63
2	18	11	9.6	7.8	6.5	6.4	12	50	638	228	3?	52
3	18	11	9.6	7.7	6.4	6.5	12	61	594	242	31	46
4	19	11	9.6	7.8	6.4	6.5	10	102	514	218	3?	45
5	19	12	9.6	7.9	6.3	6.5	11	155	558	158	31	44
6	20	13	9.0	7.7	6.3	6.4	11	201	484	181	3?	40
7	20	13	9.0	7.6	6.2	6.4	11	211	373	188	33	38
8	20	13	8.4	7.6	6.3	6.6	11	211	310	168	33	44
9	20	11	8.1	7.6	6.3	6.9	11	235	276	148	31	46
10	21	12	7.8	7.7	6.3	7.1	10	314	256	136	30	42
11	21	11	8.1	7.6	6.3	7.0	13	339	290	131	29	40
12	20	11	8.1	7.6	6.2	6.9	11	354	346	136	26	38
13	20	12	7.8	*7.6	6.1	6.7	11	350	369	131	25	38
14	21	11	7.8	7.6	6.0	6.6	12	283	484	120	23	39
15	21	11	8.1	7.4	5.9	6.8	13	269	525	109	23	38
16	20	11	8.2	7.1	*5.9	7.0	14	300	453	104	22	36
17	20	11	8.3	6.8	5.9	7.2	16	321	441	112	21	34
18	19	11	8.2	6.8	5.9	7.4	19	303	392	191	21	33
19	19	11	8.0	6.8	6.0	7.7	30	266	380	184	2?	34
20	18	11	7.7	6.8	6.1	8.0	34	259	384	142	20	36
21	17	11	7.6	6.7	6.0	8.6	42	235	365	125	21	38
22	16	11	7.5	6.5	6.0	8.7	50	201	345	117	21	40
23	15	11	7.5	6.4	5.9	8.9	58	191	324	104	22	44
24	14	10	7.6	6.3	5.9	*9.2	61	208	310	92	24	42
25	14	11	7.6	6.3	6.0	10	63	242	290	82	38	42
26	14	11	7.5	6.3	6.2	12	67	276	279	78	78	48
27	15	10	7.4	6.2	6.2	11	78	332	252	67	181	54
28	11	10	7.4	6.1	6.3	11	89	342	252	65	142	56
29	11	10	7.2	6.1	6.4	10	80	396	245	61	172	58
30	11	10	7.3	6.2	-	10	63	437	222	58	54	58
31	12	-	7.7	6.4	-	11	-	484	-	56	76	-
Month				Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet				
October.....				540	21	11	17.4	1,070				
November.....				334	13	10	11.1	662				
December.....				252.9	9.6	7.2	8.16	502				
Calendar year 1939.....				29,295.9	592	6.5	80.3	58,120				
January.....				218.9	7.9	6.1	7.06	434				
February.....				178.7	6.5	5.9	6.16	354				
March.....				247.4	12	6.4	7.98	491				
April.....				935	39	10	31.2	1,850				
May.....				7,982	484	50	257	15,850				
June.....				11,566	638	222	386	22,940				
July.....				4,140	242	56	134	8,210				
August.....				1,321	142	20	42.6	2,620				
September.....				1,306	63	33	43.5	2,590				
Water year 1939-40.....				29,021.9	638	5.9	79.3	57,550				

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Dec. 13 to Apr. 6.

Willow Creek near Granby, Colo.

Location.— Water-stage recorder, lat. 40°11', long. 106°00', in NW¼ sec. 34, T. 3 N., R. 77 W., 100 feet downstream from Gold Run Creek and 7 miles northwest of Granby. Datum of gage is 8,240.99 feet above mean sea level (general adjustment of 1929).

Drainage area.— 105 square miles.

Records available.— April 1935 to September 1940.

Extremes.— Maximum discharge during year, 303 second-feet May 13 (gage height, 2.81 feet); minimum daily, 7.5 second-feet Jan. 29, 30.
1935-40: Maximum discharge, 811 second-feet May 16, 1938 (gage height, 4.49 feet); minimum not determined, occurred during period of ice effect.

Remarks.— Records good except those for periods of ice effect or no gage-height record, which are fair. Water diverted above station for irrigation of hay meadows.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	11	11	8.5	7.9	8.7	18	63	226	49	16	13
2	11	12	11	8.4	8.2	8.8	19	76	228	51	15	12
3	11	10	11	8.2	8.2	9.0	16	139	228	44	15	12
4	13	10	11	8.4	8.5	9.0	16	184	212	43	14	13
5	13	12	11	8.6	8.6	9.0	16	224	204	40	13	13
6	13	12	10	8.5	8.6	9.0	17	240	200	47	13	12
7	12	11	10	8.4	8.6	9.0	16	240	176	37	13	11
8	12	10	10	8.4	8.7	9.0	16	245	153	34	14	11
9	14	10	9.0	8.5	8.6	9.5	16	248	132	33	13	11
10	13	9.5	8.5	*8.5	8.6	9.8	15	262	118	31	12	11
11	12	10	9.0	8.5	8.5	9.7	13	274	107	30	13	11
12	12	11	9.0	8.4	8.4	9.5	14	281	101	31	12	11
13	12	12	9.0	8.4	8.3	9.2	14	298	98	27	11	11
14	12	11	8.6	8.4	8.2	9.0	21	274	96	26	11	12
15	11	11	9.0	8.2	*8.1	9.3	27	260	95	24	11	12
16	11	11	9.0	8.0	8.1	9.6	29	272	91	24	11	11
17	11	11	9.0	8.0	8.0	10	29	272	86	28	11	11
18	11	11	9.0	8.0	8.0	10	31	255	82	48	11	11
19	11	11	8.6	8.0	7.9	11	42	233	77	49	12	11
20	11	11	8.6	8.0	7.8	12	55	224	75	32	13	11
21	11	12	8.5	8.0	7.8	12	71	238	76	27	12	11
22	10	12	8.5	7.8	7.9	13	82	212	70	26	16	11
23	10	12	8.5	7.8	8.0	15	76	198	66	22	15	11
24	11	11	8.6	7.8	8.0	17	88	191	59	22	17	11
25	10	12	8.6	7.7	8.2	*22	104	193	55	19	20	11
26	11	12	8.6	7.6	8.3	20	a112	202	51	18	25	12
27	11	12	8.6	7.6	8.4	16	a118	224	48	17	27	14
28	11	11	8.4	7.8	8.5	16	a112	216	45	18	26	13
29	11	11	8.2	7.5	8.6	15	a100	212	43	18	18	16
30	10	11	8.4	7.5	-	15	a82	214	39	17	15	15
31	10	-	8.6	7.8	-	18	-	214	-	17	13	-
Month				Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet				
October.....				353	14	10	11.4	700				
November.....				333.5	12	9.5	11.1	661				
December.....				284.8	11	8.2	9.19	565				
Calendar year 1939.....				25,019.3	539	8.2	68.5	49,620				
January.....				251.0	8.6	7.5	8.10	498				
February.....				239.5	8.7	7.8	8.26	476				
March.....				369.1	22	8.7	11.9	732				
April.....				1,385	118	13	46.2	2,750				
May.....				6,876	298	63	222	13,640				
June.....				3,337	228	39	111	6,620				
July.....				949	51	17	30.6	1,880				
August.....				458	27	11	14.8	908				
September.....				356	16	11	11.9	706				
Water year 1939-40.....				15,191.9	298	7.5	41.5	30,140				

*Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of records for Colorado River at Hot Sulphur Springs.

Note.— Stage-discharge relation affected by ice Oct. 30, 31, Nov. 10 to Mar. 26.

Fraser River near Winter Park, Colo.
(Formerly published as Fraser River near West Portal, Colo.)

Location.- Water-stage recorder, lat. 39°54'00", long. 105°46'35", in NE¼ sec. 4, T. 2 S., R. 75 W., 1½ miles northwest of Winter Park and 2½ miles downstream from point of diversion for Moffat tunnel.

Drainage area.- 28 square miles.

Records available.- September 1910 to September 1930, and September 1933 to September 1940 in reports of Geological Survey. September 1910 to September 1940 in reports of State engineer. Records since June 9, 1936, equivalent to earlier records if that part of flow diverted through Moffat tunnel from Fraser River is added to flow past station.

Average discharge.- 30 years, 43.2 second-feet (including diversion through Moffat tunnel).

Extremes.- Maximum discharge during year, 35 second-feet Apr. 19 (gage height, 0.71 feet); minimum daily, 3.4 second-feet Oct. 3.

1910-40: Maximum discharge, 820 second-feet June 13, 1918 (gage height, 2.9 feet), from rating curve extended above 410 second-feet; minimum, 2 second-feet Mar. 30, 1912.

Remarks.- Records good except those for periods of ice effect, which are fair. Trans-mountain diversion through Pioneer bore of Moffat tunnel to South Platte River Basin since June 9, 1936. Small diversion through Berthoud Pass.

Cooperation.- Records of flow diverted through Moffat tunnel furnished by State engineer.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.7	4.9	7.4	8.6	8.2	8.7	16	12	14	9.1	4.4	4.1
2	3.7	4.9	7.6	8.6	8.2	8.0	17	13	14	10	4.1	3.9
3	3.4	4.6	7.4	9.0	8.2	7.6	15	14	15	9.5	4.1	4.1
4	4.1	4.4	7.2	9.2	7.8	7.4	13	13	15	9.1	3.9	4.6
5	4.9	4.4	7.0	9.0	7.8	7.8	14	13	16	9.1	3.9	4.4
6	4.9	4.6	6.7	8.6	7.8	8.6	17	13	18	8.6	3.9	4.1
7	4.9	4.4	*6.9	8.6	7.8	8.6	16	13	17	7.8	4.1	4.1
8	4.9	4.1	7.8	8.6	7.8	8.6	16	14	17	7.5	4.1	4.1
9	5.6	4.1	8.4	8.8	7.8	8.4	16	13	16	7.2	4.1	5.2
10	5.6	4.1	8.4	9.2	7.5	8.8	14	13	15	7.2	3.9	5.9
11	5.6	4.1	8.0	9.0	8.6	8.0	14	13	14	7.5	3.9	4.6
12	5.6	4.1	7.4	9.0	8.4	7.1	16	12	14	7.2	3.9	4.1
13	5.6	3.9	7.2	9.0	8.2	7.1	20	14	13	6.5	3.9	4.6
14	5.6	3.9	7.4	*8.8	*8.0	7.1	23	12	13	6.5	3.7	4.6
15	5.2	6.5	7.8	8.2	8.0	7.2	30	11	12	7.5	3.7	4.4
16	5.2	11	8.2	8.4	7.6	7.4	30	12	12	7.2	3.7	4.4
17	5.2	10	8.2	8.0	7.3	7.6	27	14	12	7.5	3.7	4.4
18	5.2	9.8	7.6	7.5	7.8	7.8	31	15	12	9.1	3.7	4.6
19	4.9	9.8	7.4	7.4	8.4	7.8	31	12	12	7.8	3.9	4.9
20	4.9	9.2	7.4	8.2	8.8	7.8	26	12	12	6.2	3.9	4.9
21	4.9	8.6	7.4	8.6	8.6	7.2	26	14	14	5.6	4.6	4.9
22	4.9	8.4	7.2	7.5	9.1	7.8	22	12	12	5.6	5.2	4.6
23	4.9	8.2	7.6	8.0	9.4	8.6	16	12	11	5.2	4.6	4.4
24	4.9	8.0	7.4	8.1	9.0	9.9	13	12	10	5.2	5.2	4.4
25	4.9	7.7	7.6	8.6	8.9	10	14	12	9.9	4.9	6.5	4.4
26	5.2	7.8	7.8	9.0	8.6	10	16	13	9.5	4.9	5.6	6.5
27	5.2	8.0	7.6	9.1	8.8	10	17	15	9.5	5.6	5.2	6.2
28	4.9	7.6	7.4	9.1	9.2	9.5	14	14	8.6	5.9	4.9	5.2
29	5.2	7.4	7.4	8.6	9.0	7.8	12	13	8.2	5.2	4.4	5.2
30	4.9	7.2	7.6	8.6	-	6.8	9.9	13	8.6	4.6	4.1	5.9
31	4.9	-	8.0	8.2	-	9.1	-	13	-	4.4	4.1	-

Month	Observed				Run-off (acre- feet)	Diversion by Moffat Tunnel (acre-feet)	Adjusted for diversion	
	Second- foot-days	Maximum	Minimum	Mean			Run-off (acre-feet)	Mean (second- feet)
October.....	153.6	5.6	3.4	4.95	304	522	826	13.4
November.....	195.7	11	3.9	6.52	338	226	564	10.3
December.....	234.4	8.4	6.7	7.56	465	0	465	7.56
Calendar year 1939.	4,422.8	156	3.0	12.1	8,770	15,280	24,050	33.2
January.....	265.1	9.2	7.4	8.55	526	0	526	8.55
February.....	240.6	9.4	7.3	8.30	477	0	477	8.30
March.....	254.1	10	6.8	8.20	504	0	504	8.20
April.....	561.9	31	9.9	15.7	1,110	197	1,310	22.0
May.....	401	15	11	12.9	795	3,220	4,020	65.4
June.....	384.3	18	8.2	12.8	762	6,610	7,370	124
July.....	215.2	10	4.4	6.94	427	2,530	2,960	48.1
August.....	132.9	6.5	3.7	4.29	264	1,030	1,290	21.1
September.....	141.7	6.5	3.9	4.72	281	904	1,180	19.9
Water year 1939-40.	3,180.4	31	3.4	8.69	6,300	15,240	21,540	29.7

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Oct. 28, 30, Nov. 10 to Jan. 26, Feb. 11 to Mar. 17.

Fraser River at Granby, Colo.

Location.- Water-stage recorder, lat. 40°05', long. 105°57', in sec. 1, T. 1 N., R. 76½ W., just downstream from Tenmile Creek, half a mile southwest of Granby, and 2½ miles upstream from mouth.

Drainage area.- 285 square miles.

Records available.- August 1904 to September 1909, September 1937 to September 1940. Records since June 9, 1936, equivalent to earlier records if flow diverted through Moffat tunnel is added to flow past station.

Extremes.- Maximum discharge during year, 517 second-feet June 3 (gage height, 1.88 feet); minimum daily, 27 second-feet Aug. 18, 19.
1904-9, 1938-40: Maximum daily discharge, 1,860 second-feet June 14, 15, 1906; minimum daily, 25 second-feet Sept. 22, 1939.

Remarks.- Records excellent except those for periods of ice effect, which are fair, and those July 15 to September 30, which are good. Transmountain diversion through Pioneer bore of Moffat tunnel to South Platte River Basin since June 9, 1936.

Cooperation.- Records of flow diverted through Moffat tunnel furnished by State engineer.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	31	38	44	45	41	47	111	118	420	89	28	37
2	33	37	47	43	40	46	106	134	431	148	31	37
3	31	36	46	43	40	45	79	164	436	145	34	37
4	35	35	46	43	40	44	81	190	400	140	36	54
5	41	39	46	44	39	46	87	221	420	121	35	47
6	41	41	45	43	38	47	93	228	431	134	33	43
7	40	37	*45	41	39	46	75	254	365	91	35	41
8	37	36	44	41	39	46	70	239	338	75	37	39
9	49	35	44	39	39	47	81	235	304	66	40	47
10	47	35	44	39	39	48	79	280	254	57	39	64
11	44	35	42	39	38	48	71	338	246	61	46	55
12	41	36	41	37	36	46	64	361	250	70	37	47
13	40	37	42	36	34	44	77	390	254	52	35	44
14	40	38	43	36	33	44	113	342	288	44	31	49
15	37	39	44	35	32	45	157	324	292	39	30	47
16	37	39	44	*36	*34	47	145	338	284	46	30	44
17	36	39	43	35	33	49	104	365	273	75	29	44
18	35	38	41	34	33	48	126	380	254	183	27	47
19	35	40	41	33	35	50	190	304	228	137	27	52
20	35	41	42	34	35	54	232	288	221	87	35	79
21	35	42	41	34	34	*58	242	380	304	71	40	54
22	35	43	39	33	36	58	203	320	300	62	55	51
23	34	43	40	34	38	58	142	273	207	43	43	49
24	34	42	38	35	41	70	151	261	170	34	46	46
25	31	41	40	36	41	84	145	269	132	34	75	44
26	34	41	41	37	42	92	154	296	134	30	71	57
27	36	43	41	36	43	80	173	400	116	29	68	79
28	35	43	39	38	44	70	170	375	91	33	66	62
29	37	43	41	39	46	61	142	365	81	36	52	62
30	36	42	43	39	-	66	129	361	77	39	44	64
31	38	-	45	40	-	91	-	390	-	35	40	-

Month	Observed				Run-off (acre- feet)	Diversion by Moffat Tunnel (acre-feet)	Adjusted for diversion	
	Second- foot-days	Maximum	Minimum	Mean			Run-off (acre-feet)	Mean (second- feet)
October.....	1,150	49	31	37.1	2,280	1,080	3,370	54.8
November.....	1,174	43	35	39.1	2,330	40	2,730	44.9
December.....	1,322	47	38	42.6	2,620	0	2,620	42.6
Calendar year 1939	43,313	815	25	119	85,910	31,130	117,000	162
January.....	1,177	45	33	38.0	2,330	0	2,330	38.0
February.....	1,102	46	32	38.0	2,190	0	2,190	36.0
March.....	1,725	92	44	55.6	3,420	0	3,420	55.6
April.....	3,792	242	64	126	7,580	232	7,750	130
May.....	9,183	400	118	296	18,210	6,080	24,290	395
June.....	8,001	436	77	267	15,870	12,170	28,040	471
July.....	2,306	183	29	74.4	4,570	5,320	9,890	161
August.....	1,275	75	27	41.1	2,530	2,210	4,740	77.0
September.....	1,522	79	37	50.7	3,020	1,890	4,910	82.6
Water year 1939-40	33,729	436	27	92.2	66,890	29,390	96,280	133

*Winter discharge measurement made on this day.

Notes.- Stage-discharge relation affected by ice Oct. 31 to Nov. 2, Nov. 10 to Mar. 28.

TRIBUTARIES ABOVE GREEN RIVER

Vasquez Creek near Winter Park, Colo.
(Formerly published as Vasquez Creek near West Portal, Colo.)

Location.- Water-stage recorder, lat. 39°55'15", long. 105°47'05", in NW¼ sec. 33, T. 1 S. R. 75 W., a quarter of a mile upstream from mouth, 1½ miles downstream from Moffat tunnel diversion, and 2½ miles northwest of Winter Park. Datum of gage is 8,768.48 feet above mean sea level (Bureau of Public Roads bench mark).

Drainage area.- 27.8 square miles.

Records available.- June 1907 to October 1909, August 1934 to September 1940. Records prior to May 26, 1937, equivalent to earlier records if that part of flow diverted through Moffat tunnel from Vasquez Creek is added to flow past station.

Extremes.- Maximum discharge during year, 19 second-feet Apr. 22 (gage height, 1.12 feet); minimum daily, 0.1 second-foot June 4, 5, 8-27, 29, 30, July 3, 7-17, 21-24. 1934-40: Maximum discharge, 396 second-feet June 15, 1935 (gage height, 2.64 feet); minimum daily, that of June 4, 5, 8-27, 29, 30, July 3, 7-17, 21-24, 1940.

Remarks.- Records good except those for periods of ice effect, which are fair. Trans-mountain diversion through Pioneer bore of Moffat tunnel to South Platte River Basin since May 26, 1937.

Cooperation.- Records of flow diverted through Moffat tunnel furnished by State engineer.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.6	2.7	5.8	5.0	5.2	5.8	7.8	5.7	0.2	0.2	3.2	2.2
2	1.6	2.7	5.8	4.9	5.1	5.3	7.8	6.7	.8	.2	3.2	2.2
3	1.6	2.5	5.6	5.1	5.0	5.1	7.0	7.8	.2	.1	3.2	2.2
4	2.2	2.3	5.2	5.2	4.9	5.4	7.4	8.2	.1	.2	2.5	2.9
5	2.2	2.5	5.0	5.2	4.9	5.4	7.4	7.8	.1	.2	2.7	2.7
6	2.2	2.5	4.8	5.0	5.0	5.7	7.4	7.0	.2	.2	2.5	2.5
7	2.2	2.5	5.0	4.8	5.0	5.4	6.7	7.0	.2	.1	2.5	2.5
8	2.2	2.3	5.2	4.8	5.0	5.4	7.8	7.0	.1	.1	2.7	2.5
9	2.9	2.3	5.6	5.0	5.0	5.7	7.0	5.7	.1	.1	2.7	2.5
10	2.2	2.5	5.8	5.2	4.9	5.7	6.7	5.7	.1	.1	2.5	2.9
11	1.3	2.7	5.4	4.8	5.2	5.7	8.2	5.4	.1	.1	2.5	2.5
12	1.0	2.7	5.2	4.8	5.3	5.7	8.9	5.7	.1	.1	2.2	2.2
13	2.5	2.5	4.8	4.8	5.2	5.8	8.5	6.0	.1	.1	2.2	2.5
14	2.7	3.8	4.8	4.5	5.1	5.4	8.5	5.4	.1	.1	2.2	2.5
15	2.7	7.5	5.0	4.2	5.0	5.2	9.3	4.0	.1	.1	2.0	2.5
16	2.5	9.0	5.4	4.2	4.8	5.6	8.9	2.2	.1	.1	2.0	2.2
17	2.5	8.6	5.4	4.1	4.8	5.7	8.5	1.8	.1	.1	2.0	2.5
18	2.5	8.4	5.0	3.9	5.0	5.7	9.3	2.5	.1	.4	2.0	2.5
19	2.5	8.0	4.8	3.9	5.4	5.7	11	1.3	.1	2.9	2.0	2.7
20	2.2	8.0	4.7	4.2	5.4	5.7	16	1.0	.1	1.3	2.5	2.9
21	2.2	7.8	4.7	4.7	5.4	5.7	15	1.3	.1	.1	2.9	2.5
22	2.2	7.6	4.6	4.2	5.8	5.7	14	1.3	.1	.1	3.2	2.2
23	2.2	7.2	4.7	4.3	5.8	5.7	13	1.1	.1	.1	2.7	2.0
24	2.2	7.0	4.6	4.6	5.8	5.7	14	1.0	.1	.1	3.2	2.0
25	2.2	6.8	4.7	5.0	5.6	6.0	12	1.0	.1	.2	3.7	2.0
26	2.2	7.0	4.6	5.2	5.6	6.0	12	1.0	.1	.8	3.2	3.2
27	2.5	7.0	4.5	5.4	5.8	6.0	7.0	1.1	.1	3.2	3.2	3.4
28	2.2	6.4	4.4	5.4	5.9	6.3	6.3	1.0	.2	4.0	2.9	2.9
29	2.2	6.0	4.5	5.3	6.0	6.3	5.1	1.0	.1	4.0	2.7	2.9
30	2.1	5.6	4.7	5.2	-	6.3	6.0	.9	.1	4.0	2.2	2.9
31	2.9	-	4.8	5.2	-	6.3	-	.6	-	3.7	2.2	-

Month	Observed				Run-off (acre- feet)	Diversión by Moffat Tunnel (acre-feet)	Adjusted for diversion	
	Second- foot-days	Maximum	Minimum	Mean			Run-off (acre-feet)	Mean (second- feet)
October.....	68.4	2.9	1.0	2.21	156	567	705	11.4
November.....	154.4	9.0	2.3	5.15	306	176	481	9.09
December.....	155.1	5.8	4.4	5.00	308	0	308	6.00
Calendar year 1939.	2,904.0	55	.2	7.96	5,760	15,850	21,610	29.9
January.....	148.1	5.4	3.9	4.78	294	0	294	4.78
February.....	152.9	6.0	4.8	5.27	303	0	303	6.27
March.....	177.1	6.3	6.1	5.71	351	0	351	6.71
April.....	274.5	16	5.1	9.15	544	38	579	9.74
May.....	115.2	8.2	.6	3.72	226	2,880	3,090	50.2
June.....	4.2	.8	.1	.14	8.3	5,570	5,580	93.7
July.....	27.1	4.0	.1	.87	54	2,790	2,840	46.3
August.....	81.4	3.7	2.0	2.63	161	1,170	1,330	21.7
September.....	76.1	3.4	2.0	2.54	151	986	1,140	19.2
Water year 1939-40.	1,434.5	16	.1	3.92	2,840	14,150	17,000	23.4

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Oct. 27 to Mar. 2, Mar. 12-16.

St. Louis Creek near Fraser, Colo.

Location.- Water-stage recorder, lat. 39°54'45", long. 105°52'35", in sec. 34, T. 1 S., R. 76 W., a third of a mile downstream from confluence of East and West Branches and 4½ miles southwest of Fraser.

Drainage area.- 32.8 square miles.

Records available.- August 1934 to September 1940.

Extremes.- Maximum discharge during year, 175 second-feet June 2 (gage height, 2.02 feet); minimum daily, 6.0 second-feet Apr. 12.

1934-40: Maximum discharge, 353 second-feet June 15, 1935 (gage height, 2.58 feet), from rating curve extended above 210 second-feet; minimum, 3.2 second-feet Apr. 9, 1935 (gage height, 0.75 foot).

Remarks.- Records good except those for May 1-31 and those for periods of ice effect, which are fair. No regulation or diversion.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	13	7.8	8.0	7.8	8.0	9.5	14	122	71	25	16
2	17	14	7.8	8.5	8.0	8.0	9.0	20	134	75	24	13
3	17	13	7.0	9.0	8.0	8.0	8.5	28	141	81	23	19
4	18	13	6.8	9.0	8.0	6.6	8.0	33	136	79	22	24
5	19	14	6.4	9.0	8.0	6.8	8.5	35	139	69	22	18
6	19	14	6.2	8.5	8.0	7.5	8.5	37	118	65	22	17
7	17	13	6.4	8.0	8.0	8.0	8.5	38	102	62	21	18
8	18	13	6.8	7.5	8.0	6.5	7.5	37	96	58	20	17
9	19	14	7.2	6.4	8.0	8.0	7.5	41	89	56	20	18
10	17	14	7.8	6.4	7.5	8.0	7.5	46	87	53	20	22
11	17	14	7.2	6.7	7.0	8.0	6.7	52	91	53	20	18
12	17	14	7.0	7.0	7.5	7.4	6.0	55	96	52	18	16
13	17	14	7.0	7.0	7.5	7.0	8.5	58	107	50	17	18
14	17	13	7.0	7.5	7.5	7.0	10	47	118	47	16	18
15	17	13	7.2	7.5	8.0	7.0	11	50	113	46	16	19
16	16	12	7.2	7.0	8.0	7.6	10	54	111	47	16	17
17	16	11	7.0	7.0	7.6	8.5	9.5	55	113	52	16	17
18	15	11	6.8	6.8	8.0	8.5	12	46	109	56	14	16
19	14	11	6.6	6.6	6.7	8.5	14	45	109	50	16	19
20	14	11	6.6	7.5	6.7	8.0	17	46	115	44	19	24
21	14	10	6.6	7.5	6.7	7.5	17	45	118	42	21	20
22	14	10	6.6	7.5	7.0	7.5	15	43	107	39	22	19
23	13	9.5	6.6	7.5	7.0	8.5	15	43	100	38	18	18
24	14	9.2	6.8	7.5	7.0	8.0	16	45	93	36	23	18
25	13	9.2	6.8	9.0	7.0	9.0	16	47	89	34	26	19
26	13	9.2	6.8	9.0	7.0	8.0	19	52	86	32	25	30
27	12	9.0	6.8	9.0	7.5	8.0	23	62	79	30	24	29
28	11	8.8	7.0	9.0	7.5	7.5	19	65	78	30	21	26
29	14	8.4	6.8	8.6	8.5	7.5	15	74	75	30	19	24
30	11	8.0	6.7	8.2	-	7.5	14	84	72	29	18	24
31	13	-	7.5	7.8	-	8.5	-	100	-	27	17	-
Month				Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet			
October.....				481		19	11	16.5	954			
November.....				350.3		14	8.0	11.7	695			
December.....				214.8		7.8	6.2	6.93	426			
Calendar year 1939.....				12,062.1		202	6.2	33.0	23,940			
January.....				241.5		9.0	6.4	7.79	479			
February.....				219.0		8.5	6.7	7.55	434			
March.....				242.4		9.0	6.6	7.82	481			
April.....				356.7		23	6.0	11.9	708			
May.....				1,495		100	14	49.2	2,970			
June.....				3,143		141	72	105	6,230			
July.....				1,533		81	27	49.5	3,040			
August.....				621		26	14	20.0	1,230			
September.....				591		30	13	19.7	1,170			
Water year 1939-40.....				9,488.7		141	6.0	25.9	18,820			

Note.- Stage-discharge relation affected by ice Oct. 28, 30, 31, Nov. 1, 3, 4, Nov. 7 to Dec. 29, Jan. 18, 19, 29-31, Feb. 1, 2, 17, Mar. 4, 5, 12-16, Apr. 12.

Ranch Creek above forks, near Fraser, Colo.

Location.- Water-stage recorder, lat. $39^{\circ}56'30''$, long. $105^{\circ}44'00''$, in SW $\frac{1}{4}$ sec. 24, T. 1 S., R. 75 W., 0.8 mile upstream from North Fork and 4 miles east of Fraser.

Drainage area.- 3.8 square miles.

Records available.- April 1937 to September 1940.

Extremes.- Maximum discharge during year, 46 second-feet June 4 (gage height, 1.95 feet); minimum daily, 1.1 second-feet Oct. 28, 30, probably less during period of no record.
1937-40: Maximum discharge, 67 second-feet June 21, 1938 (gage height, 3.45 feet); minimum daily, 0.4 second-foot Apr. 1-3, 10, 11, 16, 17, 19, 20, 1939.

Remarks.- Records fair. No diversion or regulation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.8	bl.3					-	2.3	28	14	3.4	2.8
2	1.8	1.3					-	2.6	30	14	3.3	2.8
3	1.8	1.3					-	3.4	30	13	3.1	3.0
4	1.7	-					-	4.3	32	12	3.0	3.0
5	1.7	-					-	4.5	33	12	3.0	2.8
6	1.6	-					-	4.9	28	11	3.0	2.6
7	1.4	-					-	5.4	24	10	3.0	2.5
8	1.6	-					-	5.6	21	10	3.0	2.5
9	1.6	-					-	6.1	18	9.6	3.0	2.8
10	1.6	-					-	7.5	18	9.3	3.0	3.1
11	1.6	-					-	9.6	18	8.9	3.0	2.8
12	1.6	-					-	10	19	8.3	3.0	2.6
13	1.6	-					-	9.3	24	8.0	2.8	2.8
14	1.6	-					-	8.0	29	7.5	2.6	2.8
15	1.6	-					-	8.3	29	6.9	2.6	2.6
16	1.6	-					-	10	29	7.2	2.6	2.6
17	1.6	-					-	11	27	9.6	2.6	2.6
18	1.6	-					-	12	25	8.9	2.6	2.6
19	1.4	-					-	8.9	24	8.0	2.6	2.6
20	1.4	-					-	8.6	24	7.2	2.8	2.6
21	1.3	-					-	8.0	24	6.4	2.8	2.6
22	1.3	-					-	7.7	21	6.1	3.0	2.6
23	1.3	-					-	2.6	8.3	20	5.8	2.6
24	1.3	-					-	2.3	8.3	18	5.4	3.4
25	1.2	-					-	2.3	8.6	17	5.1	4.5
26	1.2	-					-	2.8	10	16	4.9	3.6
27	1.3	-					-	3.3	12	16	5.1	3.6
28	bl.1	-					-	2.8	13	15	4.7	3.3
29	1.4	-					-	2.3	16	14	4.5	3.1
30	bl.1	-					-	2.3	19	13	4.0	3.0
31	bl.2	-					-	-	25	-	3.8	2.8
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						45.9	1.8	1.1	1.48	91		
November.....						-	-	-	-	-		
December.....						-	-	-	-	-		
Calendar year						-	-	-	-	-		
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March.....						-	-	-	-	-		
April 23-30.....						20.7	3.3	2.3	2.59	41		
May.....						278.2	25	2.3	8.97	552		
June.....						684	33	13	22.8	1,360		
July.....						251.2	14	3.8	8.10	498		
August.....						93.7	4.5	2.6	3.02	186		
September.....						83.0	3.3	2.5	2.77	165		
Water year						-	-	-	-	-		

b Stage-discharge relation affected by ice.

Ranch Creek near Fraser, Colo.

Location.— Water-stage recorder, lat. 39°55'15", long. 105°47'05", in NE¼ sec. 22, T. 1 S., R. 75 W., 150 yards downstream from South Fork and 3 miles east of Fraser.

Drainage area.— 19.9 square miles.

Records available.— August 1934 to September 1940.

Extremes.— Maximum discharge during year, 139 second-feet June 4 (gage height, 2.40 feet); minimum daily, 2.8 second-feet Feb. 8 to Mar. 3.

1934-40: Maximum discharge, 299 second-feet June 15, 1935 (gage height, 3.37 feet); minimum daily, 1.5 second-feet (estimated), Feb. 3-7, Mar. 18-21, 1935.

Remarks.— Records good except those for periods of ice effect, which are fair. No diversions above station.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.2	5.2	4.4	3.7	2.9	2.8	4.2	11	97	29	10	6.7
2	4.2	4.9	4.2	3.8	2.9	2.8	4.3	13	106	33	10	6.5
3	4.2	5.0	4.2	3.9	2.9	2.8	4.0	18	108	29	9.8	6.7
4	4.8	4.8	4.2	3.8	2.9	2.8	4.2	22	108	26	9.5	7.8
5	4.9	4.8	3.9	3.7	2.9	2.8	4.3	24	108	25	10	6.7
6	5.0	4.9	3.8	3.8	2.9	2.8	4.3	28	97	24	9.2	6.5
7	4.9	5.0	*3.8	3.7	2.9	2.8	4.2	32	84	20	9.2	7.1
8	5.0	4.5	3.9	3.6	2.8	2.8	4.2	34	76	19	9.0	6.9
9	5.7	4.1	4.0	3.5	2.8	2.8	4.2	38	66	18	8.2	8.0
10	5.4	4.0	4.0	3.4	2.8	2.9	4.2	47	65	18	8.2	10
11	5.5	3.9	3.9	3.3	2.8	3.0	4.2	55	64	17	8.0	8.0
12	5.4	4.1	3.8	3.3	2.8	2.9	4.2	58	66	16	7.5	7.3
13	5.2	4.1	3.7	3.3	2.8	2.9	4.6	57	75	15	7.3	7.8
14	5.2	4.1	3.7	3.4	2.8	2.9	6.1	53	84	16	7.1	8.0
15	5.0	4.0	3.7	3.4	2.8	2.9	6.9	55	81	14	7.1	7.5
16	4.9	3.9	3.8	3.3	2.8	2.9	6.9	58	79	14	6.7	7.1
17	4.8	3.8	3.9	3.3	2.8	3.0	5.4	63	74	21	6.7	7.3
18	4.8	3.7	3.8	3.3	2.8	2.9	6.5	66	67	26	6.3	7.8
19	4.8	3.7	3.8	3.3	2.8	2.9	8.5	53	55	22	6.7	8.5
20	4.6	3.8	3.7	3.2	2.8	2.9	11	45	63	19	7.1	8.5
21	4.4	3.9	3.7	3.2	2.8	3.0	12	39	69	17	8.5	7.8
22	4.4	3.8	3.7	3.1	2.8	3.0	11	36	59	16	9.5	8.8
23	4.4	3.8	3.7	3.0	2.8	3.1	11	36	53	16	6.9	8.0
24	4.4	3.9	3.7	3.0	2.8	3.2	11	36	48	15	8.2	7.3
25	4.3	3.8	3.7	3.0	2.8	3.5	12	39	44	14	12	7.3
26	4.4	4.2	3.7	3.0	2.8	3.4	14	44	41	14	10	9.5
27	4.6	4.2	3.6	3.0	2.8	3.4	18	52	37	14	10	9.5
28	4.0	4.0	3.6	3.1	2.8	3.4	15	54	34	13	9.0	8.5
29	5.4	3.9	3.6	3.1	2.8	3.3	12	61	31	12	7.8	9.0
30	4.0	4.2	3.7	3.0	-	3.4	11	70	29	12	7.3	9.2
31	4.5	-	3.7	3.0	-	3.8	-	84	-	11	6.7	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						147.3	5.7	4.0	4.75	292		
November.....						125.0	5.2	3.7	4.20	250		
December.....						118.6	4.4	3.6	3.83	235		
Calendar year 1939.....						6,378.6	132	3.5	17.5	12,650		
January.....						103.5	3.9	3.0	3.34	205		
February.....						81.9	2.9	2.8	2.82	162		
March.....						93.8	3.8	2.8	3.03	186		
April.....						233.4	18	4.0	7.78	463		
May.....						1,371	84	11	44.2	2,720		
June.....						2,078	108	29	69.3	4,120		
July.....						575	33	11	18.5	1,140		
August.....						259.5	12	6.3	8.37	515		
September.....						235.9	10	6.5	7.86	468		
Water year 1939-40.....						5,423.9	108	2.8	14.8	10,760		

*Winter discharge measurement made on this day.

Note.— Stage-discharge relation affected by ice Oct. 28, 30, 31, Nov. 4, Nov. 7 to Jan. 5.

Ranch Creek near Tabernash, Colo.

Location.- Water-stage recorder, lat. 39°59'55", long. 105°49'10", in sec. 6, T. 1 S., R. 75 W., a quarter of a mile upstream from Meadow Creek and 1½ miles east of Tabernash.

Drainage area.- 50.7 square miles.

Records available.- September 1934 to September 1940.

Extremes.- Maximum discharge during year, 250 second-feet June 2 (gage height, 3.37 feet); minimum daily, 3.8 second-feet Feb. 14, 17.
1934-40: Maximum discharge, 506 second-feet June 15, 1935 (gage height, 4.40 feet); no flow Feb. 15 to Mar. 13, 1937.

Remarks.- Records good except those for periods of ice effect, which are fair. Several small diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.4	12	12	8.2	5.2	5.2	15	25	204	49	15	15
2	6.4	14	12	7.7	5.1	5.2	22	27	210	69	15	15
3	6.0	14	12	7.8	5.0	5.1	30	37	204	59	14	15
4	7.2	13	11	8.0	4.8	5.0	32	51	196	50	12	18
5	8.5	15	11	8.0	4.5	5.0	32	62	196	47	12	15
6	9.0	17	11	7.6	4.3	5.1	29	66	191	49	12	15
7	9.0	15	11	7.2	4.5	5.2	22	83	160	38	13	15
8	9.0	15	11	7.4	4.5	5.4	23	85	147	35	13	15
9	12	17	11	7.4	4.5	5.6	17	100	123	32	13	18
10	10	16	12	7.0	4.5	5.6	19	118	115	30	14	19
11	10	16	12	6.7	4.2	5.4	15	132	115	32	16	17
12	9.5	17	11	6.4	4.3	5.2	14	137	116	30	14	15
13	10	15	10	6.6	4.0	5.4	17	140	126	26	14	15
14	10	15	9.4	6.6	3.8	5.6	20	120	142	25	14	17
15	10	14	10	5.8	4.0	5.6	22	124	146	24	14	17
16	9.5	14	11	5.9	3.9	5.6	25	131	134	25	16	16
17	9.5	13	10	6.0	3.8	5.6	26	144	128	34	16	17
18	10	12	9.4	5.6	3.9	5.8	31	136	116	59	16	17
19	9.5	12	9.0	4.7	4.2	6.0	44	121	108	42	16	19
20	7.6	12	9.6	4.9	4.3	6.2	47	116	110	30	18	19
21	7.6	12	9.6	4.8	4.3	5.6	44	126	132	26	17	17
22	8.0	11	9.0	4.5	4.3	6.4	34	104	113	25	15	17
23	9.0	11	8.4	4.8	4.5	6.3	29	96	91	24	8.0	17
24	9.5	11	8.4	5.1	4.7	6.8	32	99	81	22	14	17
25	10	11	8.4	5.2	4.8	8.0	32	107	73	21	22	17
26	12	9.8	8.4	5.2	4.8	10	33	121	69	20	18	20
27	12	9.8	8.2	5.2	4.9	10	42	144	61	19	19	21
28	10	11	7.6	5.2	5.0	9.6	42	136	54	20	18	18
29	13	11	7.6	5.1	5.2	9.2	32	146	48	19	15	18
30	10	11	7.8	5.2	-	9.6	29	156	47	19	14	20
31	12	-	8.2	5.2	-	11	-	182	-	16	15	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	292.2	13	6.0	9.43	580
November.....	396.6	17	9.8	13.2	787
December.....	307.0	12	7.6	9.60	609
Calendar year 1939.....	12,713.6	258	4.4	34.8	25,230
January.....	191.0	8.2	4.5	6.16	379
February.....	129.8	5.2	3.8	4.48	257
March.....	202.3	11	5.0	6.53	401
April.....	851	47	14	28.4	1,690
May.....	3,370	182	25	109	6,680
June.....	3,756	210	47	125	7,450
July.....	1,016	69	16	32.8	2,020
August.....	462	22	8.0	14.9	916
September.....	511	21	15	17.0	1,010
Water year 1939-40.....	11,484.9	210	3.8	31.4	22,780

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 22 to Apr. 3, Apr. 12-15.

North Fork of Ranch Creek near Fraser, Colo.

Location.- Water-stage recorder, lat. 39°57'00", long. 105°44'20", in northeast corner of sec. 23, T. 1 S., R. 75 W., 0.6 mile upstream from mouth and 4 miles east of Fraser.

Drainage area.- 3.4 square miles.

Records available.- April 1937 to September 1940.

Extremes.- Maximum discharge during year, 31 second-foot June 2 (gage height, 1.68 feet); minimum daily, 0.4 second-foot Oct. 28, 30, probably less during period of no record.
1937-40: Maximum discharge, 62 second-foot June 21, 1938 (gage height, 2.00 feet), from rating curve extended above 40 second-foot; minimum, that of Oct. 28, 30, 1939.

Remarks.- Records good except those for period of ice effect, which are fair. No diversion or regulation.

Discharge, in second-foot, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.9	0.6					-	1.1	26	8.5	2.7	2.1
2	.8	.6					-	1.6	25	9.5	2.7	2.1
3	.8	.6					-	2.6	22	6.2	2.4	2.1
4	.9	-					-	3.6	22	7.2	2.3	2.6
5	.9	-					-	4.1	23	6.8	2.3	2.1
6	1	-					-	4.6	20	6.5	2.3	1.9
7	1	-					-	5.4	18	5.7	2.4	1.8
8	1	-					-	5.6	16	5.4	2.4	1.8
9	1.1	-					-	6.6	15	5	2.2	2.2
10	.9	-					-	8.2	15	4.6	2.2	2.6
11	.9	-					-	9.2	14	4.6	2.2	2.1
12	.9	-					-	9.8	15	3.9	1.6	1.8
13	.9	-					-	9.5	17	3.9	1.7	2.1
14	.9	-					-	9.5	20	3.6	1.7	2.1
15	.8	-					-	9.8	20	3.5	1.6	2.1
16	.8	-					-	11	19	3.9	1.7	1.8
17	.8	-					-	13	18	6.3	1.7	1.9
18	.7	-					-	11	17	6.6	1.6	2.1
19	.7	-					-	11	16	5.4	1.8	2.2
20	.7	-					-	11	16	4.7	2.2	2.2
21	.6	-					-	11	18	4.1	2.3	2.1
22	.6	-					-	9.5	16	4.1	2.4	2.2
23	.6	-					1.3	9.5	14	3.8	2.4	2.1
24	.6	-					1.1	9.5	13	3.6	2.8	1.9
25	.6	-					1.1	10	12	3.5	3.6	2.1
26	.6	-					1.3	12	11	3.3	3.1	2.6
27	.5	-					2.1	13	10	3.5	3.3	2.6
28	b.4	-					1.9	13	9.5	3.5	2.8	2.2
29	b.5	-					1.3	15	8.8	3.2	2.4	2.4
30	b.4	-					1.1	18	8.2	3.0	2.2	2.4
31	b.5	-					-	20	-	2.8	2.2	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						23.4	1.1	0.4	0.75	46		
November.....						-	-	-	-	-		
December.....						-	-	-	-	-		
Calendar year						-	-	-	-	-		
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March.....						-	-	-	-	-		
April 23-30.....						11.2	2.1	1.1	1.40	22		
May.....						238.7	20	1.1	9.31	573		
June.....						494.5	26	8.2	16.5	961		
July.....						152.2	9.5	2.8	4.91	302		
August.....						71.4	3.6	1.6	2.30	142		
September.....						64.3	2.6	1.8	2.14	128		
Water year						-	-	-	-	-		

b Stage-discharge relation affected by ice.

Middle Fork of Ranch Creek near Fraser, Colo.

Location.- Water-stage recorder, lat. 39°56'00", long. 105°44'40", on line between secs. 25 and 26, T. 1 S., R. 75 W., 1.6 miles upstream from South Fork and 4.2 miles east of Fraser.

Drainage area.- 4.4 square miles.

Records available.- April 1937 to September 1940.

Extremes.- Maximum discharge during year, 110 second-feet June 3 (gage height, 1.75 feet); minimum recorded, 0.8 second-foot Oct. 3 (gage height, 0.50 foot), less during period of record.
1937-40: Maximum discharge, 124 second-feet June 21, 1938 (gage height, 1.88 feet); minimum not determined, occurred during period of ice effect.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. No record Nov. 1 to Apr. 22. No diversion or regulator.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.0						-	2.5	44	10	3.4	2.3
2	.9						-	3.5	54	10	3.2	2.3
3	.8						-	4.0	77	9.6	3.0	2.3
4	1.1						-	4.7	42	8.6	2.9	2.5
5	1.2						-	5.8	56	8.2	2.9	2.3
6	1.2						-	6.6	51	7.8	2.9	2.2
7	1.2						-	7.2	30	7.0	2.9	2.2
8	1.3						-	8.2	24	6.5	2.9	2.0
9	1.4						-	9.5	20	6.2	2.8	2.3
10	1.3						-	11	20	5.8	2.8	2.6
11	1.3						-	13	20	5.5	2.6	2.2
12	1.3						-	14	20	5.2	2.5	2.0
13	1.3						-	14	24	5.0	2.4	2.2
14	1.3						-	14	29	4.8	2.3	2.2
15	1.3						-	13	28	4.6	2.3	2.2
16	1.3						-	14	27	4.6	2.3	2.0
17	1.2						-	15	23	6.0	2.2	2.0
18	1.2						-	14	22	7.0	2.2	2.0
19	1.1						-	12	22	6.2	2.3	2.0
20	1.2						-	11	20	5.5	2.4	2.0
21	1.2						-	10	21	4.8	2.8	2.0
22	1.2						-	9.6	19	4.6	2.8	2.0
23	1.0						2.2	10	17	4.6	2.4	2.0
24	1.0						2.2	10	16	4.4	2.8	2.0
25	1.0						1.8	11	15	4.2	3.6	2.0
26	1.0						2.3	12	14	4.2	3.2	2.5
27	1.0						2.8	14	13	4.4	3.0	2.3
28	b.9						2.2	14	12	4.2	2.8	2.0
29	b1.0						2.3	13	11	4.0	2.5	2.0
30	b.9						2.3	19	10	3.8	2.3	2.0
31	b1.0						-	34	-	3.4	2.3	-
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....							35.1	1.4	0.8	1.13	70	
November.....							-	-	-	-	-	
December.....							-	-	-	-	-	
Calendar year							-	-	-	-	-	
January.....							-	-	-	-	-	
February.....							-	-	-	-	-	
March.....							-	-	-	-	-	
April 23-30.....							18.3	2.8	1.8	2.29	36	
May.....							353.6	34	2.5	11.4	701	
June.....							801	77	10	26.7	1,590	
July.....							180.7	10	3.4	5.83	358	
August.....							83.7	3.6	2.2	2.70	166	
September.....							64.6	2.6	2.0	2.15	128	
Water year							-	-	-	-	-	

b Stage-discharge relation affected by ice.

Note.- No gage-height record Apr. 29 to May 19; discharge computed on basis of weather records and records for Ranch Creek near Fraser.

South Fork of Ranch Creek near Winter Park, Colo.
(Formerly published as South Fork of Ranch Creek near West Portal, Colo.)

Location.- Water-stage recorder, lat. 39°54'45", long. 105°44'40", in SE¼ sec. 35, T. 1 S., R. 75 W., 2.8 miles upstream from mouth and 5 miles northeast of Winter Park.

Drainage area.- 2.4 square miles.

Records available.- November 1936 to September 1940.

Extremes.- Maximum discharge during year, 24 second-feet June 1 (gage height, 1.14 feet); minimum recorded, 0.7 second-foot Oct. 1-3 (gage height, 0.12 foot); less during period of no record.

1936-40: Maximum discharge, 59 second-feet June 1, 1938 (gage height, 1.43 feet); minimum, probably between 0.2 and 0.4 second-foot at times during period of ice effect.

Remarks.- Records good. No diversion or regulation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.7	1.0					-	1.5	16	5.3	1.5	1.2
2	.7	1.0					-	1.7	16	5.4	1.4	1.2
3	.7	.9					-	2.1	15	5.1	1.3	1.2
4	.9	-					-	2.9	14	4.9	1.3	1.2
5	.9	-					-	3.5	14	4.8	1.2	1.2
6	.9	-					-	4.6	13	4.4	1.3	1.1
7	.9	-					-	5.4	13	4.1	1.3	1.1
8	.9	-					-	6.0	13	4.1	1.2	1.1
9	1.0	-					-	7.3	11	3.6	1.2	1.5
10	.9	-					-	9.1	10	3.4	1.2	1.5
11	1.0	-					-	12	9.9	3.4	1.2	1.2
12	1.0	-					-	13	9.1	3.1	1.1	1.2
13	1.0	-					-	12	9.4	2.9	1.1	1.3
14	1.0	-					-	15	9.4	2.7	1.1	1.2
15	1.0	-					-	14	9.1	3.0	1.1	1.1
16	1.0	-					-	14	9.1	2.9	1.1	1.1
17	1.1	-					-	14	8.5	3.1	1.1	1.1
18	1.0	-					-	14	8.3	3.9	1.1	1.2
19	1.0	-					-	14	8.3	3.1	1.1	1.1
20	1.0	-					-	13	8.3	2.6	1.2	1.1
21	1.0	-					-	12	9.7	2.3	1.3	1.2
22	1.0	-					-	12	8.0	2.2	1.3	1.1
23	1.0	-					1.4	12	7.3	2.1	1.2	1.0
24	1.0	-					1.6	13	6.6	2.0	1.4	1.0
25	.9	-					1.6	13	6.2	1.8	1.5	1.1
26	.9	-					2.1	13	5.8	1.8	1.4	1.3
27	.9	-					2.3	14	5.4	2.0	1.5	1.3
28	1.1	-					2.2	14	5.3	2.1	1.4	1.2
29	1.0	-					1.7	14	5.1	1.8	1.2	1.2
30	1.1	-					1.6	14	5.1	1.7	1.2	1.2
31	1.0	-					-	15	-	1.5	1.2	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						29.5	1.1	0.7	0.95	59		
November.....						-	-	-	-	-		
December.....						-	-	-	-	-		
Calendar year						-	-	-	-	-		
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March.....						-	-	-	-	-		
April 23-50.....						14.5	2.3	1.4	1.81	29		
May.....						323.1	15	1.5	10.4	641		
June.....						288.9	16	5.1	9.63	573		
July.....						97.1	5.4	1.5	5.13	193		
August.....						38.7	1.5	1.1	1.25	77		
September.....						35.5	1.5	1.0	1.18	70		
Water year						-	-	-	-	-		

Meadow Creek near Tabernash, Colo.

Location.- Water-stage recorder, lat. $40^{\circ}02'55''$, long. $105^{\circ}46'30''$, in sec. 15, T. 1 N., R. 75 W., 5 miles northeast of Tabernash. Prior to Sept. 23, 1940, recorder at site 1,000 feet upstream at different datum.

Drainage area.- 7.0 square miles.

Records available.- May 1936 to September 1940.

Extremes.- Maximum discharge during year, 148 second-feet May 31 (gage height, 3.22 feet, site and datum then in use); minimum mean monthly discharge, 0.4 second-foot during February.

1936-40: Maximum discharge, 197 second-feet June 3, 1938 (gage height, 3.67 feet, site and datum then in use); probably no flow at times during periods of ice effect.

Remarks.- Records fair. No diversions above station.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.7	0.8	0.7				0.6	4.8	96	15	1.5	1.5
2	.5	.9	1.0				.7	4.6	91	16	1.5	1.6
3	.7	.8	1.0				.7	5.2	74	12	1.4	1.6
4	1.0	.7	.8				.7	6.2	65	9.0	1.5	1.8
5	1.2	.8	.8				.7	10	68	8.8	1.5	1.7
6	1.1	1.0	.7				.7	15	55	8.3	1.5	1.7
7	1.3	.9	.7				.7	21	47	7.5	1.6	1.7
8	1.3	.8	.8				.7	25	42	6.6	1.5	1.6
9	1.6	.8	*.9				.7	30	52	6.6	1.5	1.8
10	1.3	.8	.9				.7	36	29	6.2	1.4	1.9
11	1.3	.8	.8				.7	44	32	6.6	1.5	1.8
12	1.3	.9	.7				.8	56	35	6.6	1.3	1.7
13	1.2	.9	.7				.8	62	38	5.4	1.3	1.8
14	1.1	.9	.7				.8	62	47	5.4	1.2	1.9
15	1.1	.9	.7				.9	60	48	5.0	1.2	1.9
16	1.1	.9	.7	0.5	0.4	0.5	1.0	58	40	5.6	1.1	1.9
17	1.0	.8	.7				1.1	58	35	7.5	1.1	1.7
18	1.0	.8	.7				1.3	58	31	10	1.1	1.6
19	1.0	.7	.7				1.6	61	28	7.9	1.2	1.4
20	1.0	.8	.7				2.0	58	30	6.0	1.2	al.4
21	.9	.8	.6				*2.6	44	31	5.2	1.5	al.4
22	1.0	.8	.6				2.9	46	23	5.0	1.6	al.4
23	1.0	.9	.6				3.5	40	19	4.6	1.5	1.5
24	.9	.8	.6				3.9	46	17	4.4	1.4	1.8
25	.8	.8	.6				5.0	55	15	4.0	1.5	2.0
26	.8	.7	.6				6.0	65	15	4.4	1.3	3.2
27	.8	.9	.6				6.4	81	15	3.9	1.6	3.0
28	.7	.8	.6				6.8	76	16	3.3	1.4	2.2
29	.8	.7	.6				6.0	81	15	3.4	1.3	2.4
30	.8	.7	.6				5.0	86	15	2.6	1.3	2.6
31	.8	-	.6				-	92	-	2.1	1.3	-
Month				Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet			
October.....				31.1		1.6	0.5	1.00	62			
November.....				24.6		1.0	.7	.82	49			
December.....				22.0		1.0	.6	.71	44			
Calendar year 1939.....				3,938.8		118	-	10.8	7,810			
January.....				15.5		-	-	.5	31			
February.....				11.6		-	-	.4	23			
March.....				15.5		-	-	.5	31			
April.....				66.0		6.8	.6	2.20	131			
May.....				1,446.8		92	4.6	46.7	2,870			
June.....				1,144		96	15	38.1	2,270			
July.....				204.9		16	2.1	6.61	406			
August.....				42.4		1.6	1.1	1.87	64			
September.....				55.5		3.2	1.4	1.85	110			
Water year 1939-40.....				3,079.9		96	-	8.42	6,110			

*Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of engineers' observations and records for Arapaho Creek below Monarch Lake.

Note.- Stage-discharge relation affected by ice Dec. 7 to May 16.

Strawberry Creek near Granby, Colo.

Location.- Water-stage recorder, lat. 40°05'10", long. 105°49'30", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 32, T. 2 N., R. 75 W., 0.6 mile downstream from Little Strawberry Creek and 6 miles east of Granby.

Drainage area.- 12.6 square miles.

Records available.- May 1936 to September 1940.

Extremes.- Maximum discharge during year, 48 second-feet May 11 (gage height, 1.66 feet); no flow Nov. 5, Sept. 7, and probably at times during periods of ice effect.
1936-40: Maximum discharge, 132 second-feet May 29, 1936 (gage height, 2.31 feet); no flow at times in August, September, and November 1939 and September 1940, and probably at times during periods of ice effect in each year.

Remarks.- Records good except those for period of ice effect, which are fair. Two diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.4	1.4				-	2.1	14	16	9.2	2.4	0.3
2	1.3	1.0				-	2.1	21	16	11	2.4	.3
3	1.3	1.0				-	2.0	21	14	6.1	2.2	.1
4	1.8	.7				-	2.1	21	11	3.8	2.0	.1
5	2.8	0				-	2.5	25	14	3.8	1.8	.1
6	3.0	.1				-	2.5	29	22	4.0	1.4	.1
7	2.8	.1				-	2.5	31	21	6.7	1.0	0
8	2.5	.1				-	2.4	33	19	7.3	1.2	.2
9	4.1	.3				-	2.4	36	14	6.7	1.2	.1
10	3.2	.7				-	2.4	36	13	5.8	.9	.2
11	3.2	.5				-	2.3	38	10	5.2	1.2	.9
12	3.0	.6				-	2.3	37	10	6.4	.8	.6
13	3.0	.7				-	3.0	42	8.5	4.5	.6	.1
14	2.5	.6				-	5.4	40	3.5	4.5	.5	.1
15	2.3	.7				-	7.4	59	12	4.2	.4	.1
16	2.0	.6				-	7.6	38	12	4.5	.1	.1
17	2.0	.8				-	6.8	37	11	6.7	.4	.1
18	1.8	-				-	8.0	30	9.9	15	.3	.1
19	1.6	-				-	11	26	11	12	.1	.4
20	1.7	-				-	*15	25	11	5.8	.2	.9
21	1.1	-				-	16	28	7.5	5.5	.5	.9
22	.7	-				-	16	22	4.2	4.5	1.6	1.2
23	.6	-				*1.5	16	17	14	4.0	1.6	1.0
24	.6	-				1.5	14	15	12	3.0	1.8	1.4
25	.6	-				1.6	16	16	12	2.2	5.2	1.4
26	.6	-				1.6	19	22	12	2.0	5.0	2.2
27	.6	-				1.8	25	31	11	2.0	6.1	1.6
28	.5	-				1.6	19	16	10	2.4	3.8	1.0
29	.7	-				1.5	15	15	9.6	2.2	2.0	.8
30	1.0	-				1.6	15	12	8.2	2.2	.7	.3
31	1.4	-				1.9	-	14	-	2.2	.6	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						55.9	4.1	0.5	1.80	111		
November 1-17.....						9.3	1.4	0	.58	20		
December.....						-	-	-	-	-		
Calendar year						-	-	-	-	-		
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March 28-31.....						14.3	1.8	1.5	1.59	28		
April.....						260.6	25	2.0	8.69	517		
May.....						829	42	12	26.7	1,640		
June.....						356.9	22	2.2	11.9	708		
July.....						165.4	15	2.0	5.34	328		
August.....						50.0	6.1	.1	1.61	99		
September.....						17.3	2.2	0	.58	34		
Water year						-	-	-	-	-		

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Mar. 23 to Apr. 22.

Williams River below Steelman Creek, Colo.

Location.- Water-stage recorder, lat. $39^{\circ}46'45''$, long. $105^{\circ}55'30''$, in sec. 20, T. 3 S., R. 76 W., just downstream from Steelman Creek and 7 miles southeast of Leal.

Drainage area.- 16.3 square miles.

Records available.- October 1935 to September 1940 in reports of Geological Survey. July 1935 to September 1940 in reports of State engineer. Records since May 10, 1940, equivalent to earlier records if flow diverted through Jones Pass tunnel is added to flow past station.

Extremes.- Maximum discharge during year, 68 second-feet June 1; maximum gage height, 1.95 feet May 5 (ice jam); minimum, 0.9 second-foot Aug. 14 (gage height, 0.09 foot), but may have been less during period of ice effect.

1935-40: Maximum discharge, 441 second-feet June 21, 1938 (gage height, 2.48 feet), from rating curve extended above 260 second-feet; minimum discharge recorded, that of Aug. 14, 1940.

Remarks.- Records fair. Transmountain diversion through Jones Pass tunnel to Clear Creek started May 10, 1940.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
1	7.9	6.6					1.2	7.1	36	9.8	a2.1	12	
2	7.7	6.4					1.2	12	43	9.6	a1.8	12	
3	7.7	6.4					1.2	13	42	9.8	a1.7	16	
4	7.9	6.4					1.2	16	39	9.6	a1.6	14	
5	7.9	6.6					1.2	18	32	8.4	a1.5	12	
6	8.2	5.7					1.2	21	25	7.9	a1.5	12	
7	6.8	5.6					1.2	20	22	7.7	a1.4	12	
8	6.6	6.0					1.1	25	20	7.5	a1.3	13	
9	7.1	6.2					1.1	32	17	7.1	1.2	13	
10	8.2	6.2					1.1	29	15	7.1	2.0	13	
11	7.5	6.2	2.5	1.6	1.3	1.2	1.1	11	15	7.1	1.6	12	
12	7.7	6.2					1.5	12	16	6.8	1.4	12	
13	7.1	6.0					1.9	13	17	6.6	1.2	13	
14	6.8	5.8					2.1	11	18	6.8	1.1	12	
15	6.6	5.4					2.4	12	18	6.2	6.2	12	
16	6.4	4.9					2.3	13	17	6.0	9.3	12	
17	6.4	4.6					2.4	13	17	7.1	8.8	12	
18	6.8	4.3					2.8	13	16	7.5	8.4	12	
19	6.6	4.2					3.4	12	15	6.6	12	12	
20	6.8	4.3					4.1	12	20	6.0	14	12	
21	6.4	4.3					4.7	11	18	5.7	13	12	
22	6.2	4.3					4.9	11	16	5.5	12	12	
23	6.2	4.2					4.8	11	13	5.1	13	12	
24	6.0	4.1					5.2	11	13	a4.7	16	11	
25	6.2	4.1					7.0	11	12	a4.2	21	12	
26	5.7	4.2					(*)	8.0	12	12	a5.7	22	17
27	6.0	4.1						8.0	13	11	a3.3	21	19
28	5.6	3.8						7.6	14	11	a3.2	17	17
29	6.0	3.5						7.2	14	10	a3.1	14	17
30	5.6	3.3						7.1	17	10	a2.9	13	17
31	6.2	-	-	25	-	a2.5		12	-				

Month	Observed				Run-off (acre- feet)	Diversion by Jones Pass tunnel (acre-feet)	Adjusted for diversion	
	Second- foot-days	Maximum	Minimum	Mean			Run-off (acre-feet)	Mean (second- feet)
October.....	210.8	8.2	5.6	6.80	418	0	418	6.80
November.....	153.9	6.6	3.3	5.13	305	0	305	5.13
December.....	77.5	-	-	2.5	154	0	154	2.5
Calendar year 1939	9,281.1	203	-	25.4	13,410	0	13,410	25.4
January.....	49.6	-	-	1.6	98	0	98	1.6
February.....	37.7	-	-	1.3	75	0	75	1.3
March.....	37.2	-	-	1.2	74	0	74	1.2
April.....	100.1	8.0	1.1	3.34	199	0	199	3.34
May.....	465.1	32	7.1	15.0	923	1,970	2,893	47.0
June.....	586	43	10	19.5	1,160	5,560	6,720	113
July.....	195.1	9.8	2.5	6.29	387	1,750	2,130	34.7
August.....	256.1	22	1.1	8.26	508	284	792	12.9
September.....	396	19	11	13.2	785	0	785	13.2
Water year 1939-40	2,565.1	43	-	7.01	5,090	9,560	14,640	20.2

* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of records for station near Leal.

Note.- Stage-discharge relation affected by ice Oct. 28, 30, 31, Nov. 4, 7, 8, Nov. 11 to Apr. 29, May 3-9.

Williams River near Leal, Colo.

Location.- Water-stage recorder, lat. 39°50', long. 106°03', in sec. 31, T. 2 S., R. 77 W., just downstream from Kinney Creek and 2 miles north of Leal.

Drainage area.- 84 square miles.

Records available.- October 1933 to September 1940 in reports of Geological Survey. July 1933 to September 1940 in reports of State engineer. Records since May 10, 1940, equivalent to earlier records if flow diverted through Jones Pass tunnel is added to flow past station.

Extremes.- Maximum discharge during year, 588 second-feet June 2 (gage height, 2.48 feet); minimum daily, 13 second-feet Dec. 28, 29.
1933-40: Maximum discharge observed, 1,530 second-feet June 21, 1938 (gage height, 3.81 feet), from rating curve extended above 1,000 second-feet; minimum daily discharge, that of Dec. 28, 29, 1939.

Remarks.- Records excellent Dec. 1 to Mar. 15, Apr. 15 to Aug. 20, and the remainder fair. Transmountain diversion through Jones Pass tunnel to Clear Creek started May 10, 1940.

Rating table, water year 1939-40 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1 to Dec. 15, Mar. 1 to Apr. 19, Aug. 20 to Sept. 30)

0.3	12	1.0	88	1.8	274
.5	28	1.2	122	2.0	346
.7	47	1.5	188	2.2	435

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	34	33	18	14	17	16	25	45	356	151	33	42
2	33	33	17	14	17	17	26	54	430	149	32	38
3	32	30	18	14	16	15	24	73	422	171	31	40
4	35	29	18	16	16	16	24	88	399	157	30	59
5	35	32	16	16	16	16	24	102	356	130	29	44
6	36	32	16	16	15	18	25	106	342	120	28	40
7	34	30	17	15	17	17	24	122	284	109	29	41
8	34	28	17	16	16	17	22	118	274	101	29	38
9	40	31	18	16	17	18	23	133	242	93	28	44
10	37	22	18	16	18	19	22	160	228	87	27	48
11	38	25	18	16	17	20	18	155	252	84	27	43
12	38	28	18	17	17	18	21	166	261	78	25	40
13	37	29	17	18	17	18	25	188	288	75	23	43
14	36	26	18	17	17	18	29	145	308	73	22	44
15	36	26	17	18	17	19	32	155	312	66	22	44
16	35	25	18	17	16	18	30	183	294	68	26	43
17	34	23	16	17	18	20	26	196	294	85	28	43
18	33	22	14	18	17	19	30	162	281	96	28	43
19	33	20	14	18	17	18	40	160	268	84	30	44
20	32	21	15	17	16	19	50	164	277	71	40	45
21	32	22	15	18	16	20	51	171	298	66	39	42
22	32	22	14	18	16	19	60	146	261	63	38	43
23	32	22	14	17	16	20	45	140	231	60	35	41
24	31	21	14	17	15	22	52	149	209	57	47	41
25	32	21	14	17	15	24	52	164	198	51	61	42
26	32	22	14	17	15	24	57	174	186	51	63	60
27	32	22	14	17	15	24	68	204	171	47	67	67
28	26	19	13	18	16	22	64	204	157	46	59	60
29	31	18	13	18	14	22	61	239	149	44	51	56
30	26	18	14	19	-	22	46	261	146	42	45	57
31	32	-	14	18	-	24	-	327	-	36	43	-

Month	Observed				Diversion by Jones Pass Tunnel		Adjusted for diversion	
	Second-foot-days	Maximum	Minimum	Mean	Run-off (acre-feet)	Run-off (acre-feet)	Run-off (acre-feet)	Mean (second-feet)
October.....	1,039	40	26	33.5	2,060	0	2,060	33.6
November.....	752	33	18	25.1	1,490	0	1,490	25.1
December.....	491	18	13	15.8	974	0	974	15.8
Calendar year 1939	37,156	810	13	102	73,700	0	73,700	102
January.....	520	19	14	16.8	1,030	0	1,030	16.8
February.....	471	18	14	16.2	934	0	934	16.2
March.....	599	24	15	19.3	1,190	0	1,190	19.3
April.....	1,076	68	18	35.8	2,130	0	2,130	35.8
May.....	4,860	327	45	156	9,620	1,970	11,590	188
June.....	2,234	430	146	274	16,330	5,760	21,890	368
July.....	2,611	171	36	84.2	5,180	1,760	6,930	113
August.....	1,115	67	22	36.0	2,210	284	2,490	40.6
September.....	1,375	67	38	45.8	2,730	0	2,730	45.8
Water year 1939-40	23,132	430	13	63.2	45,880	9,560	55,440	76.4

Williams River near Parshall, Colo.

Location.- Water-stage recorder, lat. 40°00', long. 106°11', in sec. 1, T. 1 S., R. 79 W., 2½ miles upstream from Battle Creek and 4 miles south of Parshall. Datum of gage is 7,805.00 feet above mean sea level (unadjusted).
 Drainage area.- 184 square miles.

Records available.- July 1904 to September 1924 and October 1933 to September 1940 in reports of Geological Survey. July 1904 to September 1924 and June 1933 to September 1940 in reports of State engineer. Records since May 10, 1940, equivalent to earlier records if flow diverted through Jones Pass tunnel is added to flow past station.
 Average discharge.- 27 years, 103 second-feet.

Extremes.- Maximum discharge during year, 565 second-feet June 3 (gage height, 2.85 feet); minimum daily, 21 second-feet Oct. 3.

1904-24, 1933-40: Maximum discharge observed, 2,570 second-feet June 14, 1918 (gage height, 6.0 feet, site and datum then in use), from rating curve extended above 1,400 second-feet, but a higher discharge probably occurred June 15, when gage was destroyed; minimum daily discharge, 10 second-feet Sept. 15-17, 1934.

Remarks.- Records excellent except those for periods of ice effect, which are fair. Diversions above station for irrigation. Transmountain diversion through Jones Pass tunnel to Clear Creek started on May 10, 1940.

Rating table, water year 1939-40 except periods of ice effect (gage height, in feet, and discharge, in second-feet)
 (Shifting-control method used Mar. 12, Mar. 25 to Apr. 14)

0.9	14	1.4	64	2.1	240
1.0	22	1.5	78	2.7	510
1.1	31	1.6	98		
1.3	52	1.9	176		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	48	41	34	28	35	53	90	465	100	45	63
2	22	49	41	32	28	33	53	105	465	105	42	60
3	21	45	38	33	27	31	48	135	500	115	40	54
4	23	42	39	35	27	33	49	170	451	145	39	71
5	24	46	39	35	26	35	50	200	428	100	38	68
6	24	49	41	29	26	35	52	206	420	92	37	62
7	25	43	42	28	26	36	48	226	343	77	37	60
8	56	41	42	32	25	36	44	206	320	74	43	57
9	64	44	40	28	25	37	48	216	268	72	51	60
10	62	39	38	*30	26	38	44	280	244	62	52	68
11	60	39	41	28	26	37	39	280	256	57	56	67
12	59	43	38	26	25	36	39	229	256	69	51	62
13	58	44	35	27	25	35	44	338	284	62	43	54
14	59	44	36	26	24	36	56	276	312	63	34	45
15	56	43	37	23	25	37	71	272	325	62	28	44
16	54	43	38	24	24	41	75	284	289	58	28	43
17	52	45	39	24	*23	40	58	284	284	53	30	40
18	51	40	37	22	25	42	64	256	260	75	30	40
19	50	38	30	22	26	44	89	248	240	125	34	50
20	50	40	31	22	27	45	110	248	233	120	48	62
21	48	39	32	23	26	46	110	248	294	105	51	60
22	49	42	28	22	27	43	100	226	256	96	51	62
23	48	43	31	22	28	45	82	200	200	74	49	60
24	49	41	28	23	31	46	96	197	176	70	57	59
25	48	39	30	25	28	48	96	206	165	64	58	59
26	49	40	31	24	30	48	103	220	148	62	94	74
27	50	43	29	24	32	46	127	268	127	59	96	90
28	43	40	26	25	33	46	127	272	110	56	90	78
29	48	38	28	27	35	42	105	298	92	52	75	78
30	41	40	32	27	-	43	96	325	84	50	68	78
31	46	-	35	26	-	49	-	384	-	48	66	-

Month	Observed					Diversion by Jones Pass Tunnel (acre-feet)	Adjusted for diversion	
	Second-foot-days	Maximum	Minimum	Mean	Run-off (acre-feet)		Run-off (acre-feet)	Mean (second-feet)
October.....	1,413	64	21	45.6	2,800	0	2,800	45.6
November.....	1,268	49	38	42.3	2,520	0	2,520	42.3
December.....	1,093	42	26	35.3	2,170	0	2,170	35.3
Calendar year 1939	44,788	715	18	123	88,830	0	88,830	123
January.....	826	35	22	26.6	1,640	0	1,640	26.6
February.....	784	35	23	27.0	1,560	0	1,560	27.0
March.....	1,244	49	31	40.1	2,470	0	2,470	40.1
April.....	2,175	127	39	72.5	4,310	0	4,310	72.5
May.....	7,463	384	90	240	14,780	1,970	16,750	272
June.....	8,295	500	84	276	16,460	5,560	22,010	370
July.....	2,417	145	48	78.0	4,790	1,750	6,540	106
August.....	1,590	96	28	51.5	3,150	284	3,430	55.9
September.....	1,828	90	40	60.9	3,630	0	3,630	60.9
Water year 1939-40	30,386	500	21	83.0	60,270	9,560	69,830	96.2

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 11 to Dec. 1, Dec. 13 to Mar. 11, Mar. 13-24.

Blue River at Dillon, Colo.

Location.— Water-stage recorder, lat. 39°36'50", long. 106°03'05", in sec. 18, T. 5 S., R. 77 W., at edge of Dillon, a short distance upstream from Snake River and Tenmile Creek. Datum of gage is 8,821.42 feet above mean sea level (unadjusted).

Drainage area.— 129 square miles.

Records available.— October 1910 to September 1940.

Average discharge.— 30 years, 121 second-feet.

Extremes.— Maximum discharge during year, 392 second-feet June 2 (gage height, 3.05 feet); minimum daily, 10 second-feet Jan. 19, 22, Feb. 18.
1910-40: Maximum discharge observed, 1,180 second-feet June 2, 1914, June 14, 1924; maximum gage height observed, 4.35 feet June 2, 1914; minimum discharge observed, 7.4 second-feet Mar. 22, 1933 (discharge measurement).

Remarks.— Records excellent except those for periods of ice effect or no gage-height record, which are fair. Chain gage read twice daily at temporary site Oct. 8-20. Practically all water diverted above station is returned to river above.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a40	30	23	16	14	12	23	55	338	185	68	53
2	a38	30	23	17	16	13	24	55	379	192	64	51
3	a38	30	22	17	16	15	24	61	379	176	61	49
4	a38	32	21	18	16	15	24	71	358	173	60	47
5	a38	30	22	17	16	16	25	89	326	165	60	47
6	a38	30	22	17	*16	15	25	104	323	156	59	46
7	a38	31	20	16	16	14	24	104	278	146	59	47
8	40	32	20	18	16	16	26	118	239	138	58	47
9	40	30	21	*17	15	17	24	124	222	130	58	46
10	38	27	22	18	16	19	24	138	210	122	56	50
11	38	24	23	17	16	*19	27	160	208	120	56	58
12	36	26	20	15	15	18	31	188	212	114	55	60
13	36	27	18	14	14	18	21	202	225	107	53	60
14	36	28	15	13	13	18	23	202	239	104	52	61
15	36	28	15	12	14	18	25	195	260	107	51	64
16	36	27	16	12	12	20	26	198	251	105	50	64
17	36	25	19	13	11	19	26	210	239	109	47	64
18	35	23	17	11	10	19	28	215	254	116	45	62
19	35	21	14	10	12	19	30	190	248	120	45	61
20	34	22	14	11	12	20	33	178	251	114	44	59
21	a32	24	15	11	13	21	37	180	264	107	44	55
22	a32	24	14	10	13	21	36	178	254	102	47	55
23	a30	25	15	11	14	21	42	171	239	98	48	59
24	a32	25	14	12	13	22	44	167	228	95	47	64
25	33	23	15	13	12	22	47	169	218	89	49	68
26	34	22	15	14	12	22	50	176	210	86	52	71
27	33	22	14	15	13	22	55	190	200	82	58	74
28	30	23	13	16	12	22	61	202	188	79	64	79
29	31	22	14	15	12	22	64	218	188	77	62	76
30	30	22	15	14	-	22	59	248	180	74	60	74
31	32	-	16	13	-	23	-	292	-	72	55	-
Month						Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet	
October.....						1,093		40	30	35.3	2,170	
November.....						785		32	21	26.2	1,560	
December.....						547		23	13	17.6	1,080	
Calendar year 1939.....						37,304		564	13	102	73,980	
January.....						443		18	10	14.3	879	
February.....						400		16	10	13.8	793	
March.....						580		23	12	18.7	1,150	
April.....						1,008		64	21	33.6	2,000	
May.....						5,048		292	55	163	10,010	
June.....						7,588		379	180	253	15,050	
July.....						3,650		192	72	118	7,260	
August.....						1,687		68	44	54.4	3,350	
September.....						1,771		79	46	59.0	3,510	
Water year 1939-40						24,610		379	10	67.2	48,810	

*Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of records for Tenmile Creek at Dillon.

Note.— Stage-discharge relation affected by ice Oct. 28, 30, Nov. 10 to Mar. 29.

Blue River below Green Mountain Reservoir, near Kremmling, Colo.

Location.- Water-stage recorder, lat. 39°56', long. 106°21', in NE¼ sec. 33, T. 1 S., R. 80 W., just downstream from Spring Creek, about 4 miles downstream from Green Mountain Dam and 10 miles southeast of Kremmling.

Drainage area.- 623 square miles.

Records available.- October 1937 to September 1940.

Extremes.- Maximum discharge during year, 2,800 second-feet June 2 (gage height, 4.98 feet); minimum daily, 80 second-feet Feb. 18, 19.

1937-40: Maximum discharge, 4,000 second-feet June 4, 1938 (gage height, 5.93 feet); minimum daily, 80 second-feet Feb. 18-24, 1938, Feb. 18, 19, 1940.

Remarks.- Records good except those for period of ice effect, which are fair. Many diversions above station for irrigation. Green Mountain Dam is under construction.

Rating tables, water year 1939-40, except periods of ice effect (gage height, in feet, and discharge, in second-feet)

(Shifting-control method used Mar. 25 to Apr. 5, Apr. 13-23, Aug. 24 to Sept. 30)

Oct. 1 to Apr. 23

Apr. 24 to Sept. 30

1.2	90	1.8	205	3.4	1,050
1.4	120	2.0	270	3.9	1,530
1.5	140	2.3	395	4.7	2,460
1.6	160	2.8	645		
1.8	235				

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	228	158	110	110	86	110	176	260	2,320	900	326	278
2	218	158	115	110	86	110	180	282	2,440	914	314	263
3	204	148	120	110	88	105	145	334	2,350	949	298	249
4	210	148	120	115	90	110	143	445	2,100	970	286	270
5	214	145	115	115	88	110	158	555	2,030	848	282	263
6	221	145	110	110	86	115	166	560	1,920	783	270	256
7	210	134	110	110	88	110	145	623	1,400	724	274	252
8	210	126	*114	100	90	110	130	628	1,330	675	270	242
9	235	128	120	98	92	115	135	669	1,160	640	266	242
10	224	110	115	96	92	115	135	816	1,010	612	252	249
11	214	107	115	*96	92	120	124	1,020	1,030	590	252	260
12	210	115	110	96	90	120	115	1,240	1,240	590	238	256
13	204	115	105	96	88	115	134	1,410	1,450	540	226	260
14	197	114	105	94	86	115	161	1,100	1,740	530	214	266
15	190	110	105	92	84	120	204	1,000	1,750	510	214	263
16	186	107	105	88	84	120	224	1,180	1,480	525	211	263
17	180	101	110	92	82	125	180	1,280	1,570	585	211	260
18	176	98	110	88	80	130	176	1,020	1,600	687	205	266
19	169	97	105	84	80	135	218	874	1,550	731	205	270
20	166	98	100	86	*84	145	263	914	1,560	606	223	270
21	163	100	100	86	84	150	299	928	1,610	530	226	256
22	163	105	98	86	86	150	310	842	1,540	520	232	260
23	158	105	96	84	90	150	281	790	1,360	470	229	252
24	156	100	98	86	92	155	302	854	1,270	450	238	260
25	153	100	100	88	94	153	314	914	1,120	426	302	274
26	156	105	98	92	96	158	318	1,000	1,090	404	418	306
27	158	105	94	90	100	158	346	1,270	978	382	422	322
28	136	110	92	90	105	156	350	1,210	956	368	396	310
29	150	110	94	90	110	136	318	1,420	914	359	350	322
30	136	110	100	90	90	132	290	1,620	861	350	318	318
31	156	-	105	88	-	153	-	1,970	-	346	294	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						5,751	235	136	183	11,410		
November.....						3,512	158	97	117	6,970		
December.....						3,294	120	92	103	6,530		
Calendar year 1939.....						179,586	2,840	92	492	356,200		
January.....						2,956	115	84	95.4	5,860		
February.....						2,593	110	80	89.4	5,140		
March.....						4,016	163	105	130	7,970		
April.....						6,442	350	115	215	12,780		
May.....						29,028	1,970	260	935	57,580		
June.....						44,769	2,440	861	1,492	88,800		
July.....						18,514	970	345	597	36,720		
August.....						8,452	422	205	275	16,760		
September.....						8,078	322	242	269	16,020		
Water year 1939-40.....						137,405	2,440	80	375	272,500		

*Winter-discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 21 to Mar. 24.

Snake River at Dillon, Colo.

Location.- Water-stage recorder, lat. 39°36'50", long. 106°03'05", in sec. 18, T. 5 S., R. 77 W., at private bridge at Dillon, 100 yards upstream from mouth. Datum of gage is 8,820.54 feet above mean sea level (unadjusted).

Drainage area.- 92 square miles.

Records available.- October 1910 to September 1919, December 1929 to September 1940.

Average discharge.- 20 years, 69.7 second-feet.

Extremes.- Maximum discharge during year, 460 second-feet June 2 (gage height, 3.27 feet); minimum daily, 3.8 second-feet Jan. 19.
1910-19, 1929-40: Maximum discharge, 1,200 second-feet June 13, 1935 (gage height, 4.25 feet), from rating curve extended above 500 second-feet; minimum daily, 3 second-feet Nov. 9, 1912.

Remarks.- Records excellent except those for periods of ice effect or when shifting-control method was used, which are fair. One diversion above station for power.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.			
1	9.6	9.6	9.8	5.4	6.4	8.0	10	14	344	120	23	13			
2	9.6	9.6	9.4	5.4	7.5	10	8.6	16	352	115	23	12			
3	13	9.6	9.0	5.2	7.8	7.5	7.8	16	322	111	21	12			
4	11	10	9.0	6.7	7.8	8.6	7.8	16	306	107	20	12			
5	8.6	9.6	8.4	5.4	7.8	8.1	8.4	17	322	92	19	11			
6	8.6	9.6	8.4	5.7	8.1	7.5	8.4	14	283	83	19	11			
7	8.6	10	8.0	5.6	7.8	8.9	7.5	23	235	82	19	12			
8	8.6	10	8.0	6.2	7.5	7.8	7.8	30	222	75	19	14			
9	8.9	10	8.2	*6.0	7.8	7.0	8.1	32	201	71	18	12			
10	8.6	9.0	8.4	6.4	7.5	6.7	7.2	52	204	59	17	13			
11	8.9	8.6	7.6	6.0	7.8	6.7	7.2	69	222	56	16	14			
12	8.6	9.2	7.0	5.4	7.4	6.7	12	102	235	56	16	13			
13	8.9	9.6	6.0	5.4	6.4	6.4	7.8	108	254	49	14	13			
14	9.6	9.8	5.8	4.8	5.8	6.6	11	78	294	43	14	12			
15	9.6	10	6.0	4.4	6.2	7.4	12	86	283	47	13	13			
16	9.6	10	6.4	4.4	6.0	8.6	11	108	261	45	13	12			
17	9.6	9.8	6.7	4.8	5.2	7.0	10	118	265	45	13	12			
18	8.9	9.2	6.4	4.2	5.8	7.2	12	88	248	54	12	12			
19	9.2	8.6	5.6	3.8	6.2	7.0	16	78	241	58	12	11			
20	9.2	9.2	6.0	4.6	6.6	6.7	18	78	254	47	12	11			
21	9.6	9.6	6.2	5.0	7.0	7.5	16	74	261	45	12	10			
22	9.2	9.6	5.4	4.2	6.4	8.9	15	56	225	42	12	11			
23	9.2	10	6.0	4.6	6.8	8.9	14	56	195	35	12	9.9			
24	9.6	10	5.2	5.0	7.4	8.6	14	64	181	33	12	9.9			
25	9.6	9.4	5.8	5.4	7.0	8.4	14	75	159	31	13	9.5			
26	9.2	8.4	5.6	5.8	5.7	8.6	14	86	142	27	13	10			
27	10	8.4	5.2	6.2	5.2	7.8	14	116	134	28	14	9.9			
28	9.0	9.2	4.8	6.6	7.8	7.0	14	126	124	30	14	10			
29	9.6	8.4	5.0	6.4	7.0	6.7	16	152	116	28	15	11			
30	8.6	8.4	5.2	6.0	-	7.2	14	186	120	26	14	12			
31	9.2	-	5.4	5.6	-	8.6	-	276	-	25	14	-			
Month						Second-foot-days		Maximum		Minimum		Mean		Run-off in acre-feet	
October.....						290.0		13		8.6		9.35		575	
November.....						282.4		10		8.4		9.41		560	
December.....						209.9		9.8		4.8		6.77		416	
Calendar year 1939.....						21,112.2		432		4.8		57.8		41,860	
January.....						166.6		6.7		3.8		5.37		330	
February.....						199.7		8.1		5.2		6.89		396	
March.....						238.6		10		6.4		7.70		473	
April.....						341.6		18		7.2		11.4		678	
May.....						2,400		276		14		77.4		4,760	
June.....						7,005		352		116		234		13,890	
July.....						1,765		120		25		56.9		3,500	
August.....						478		23		12		15.4		948	
September.....						348.2		14		9.5		11.6		691	
Water year 1939-40.....						13,725.0		352		3.8		37.5		27,220	

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Oct. 28 to Nov. 1, Nov. 9 to Dec. 9, Dec. 11-16, 18-30, Jan. 7-28, 30, 31, Feb. 12-24, Mar. 1, 13-15. Shifting-control method used Jan. 29, Feb. 1-11, 25-29, Mar. 2-12, Mar. 15 to Apr. 30, May 11-28.

Tenmile Creek at Dillon, Colo.

Location.- Water-stage recorder, lat. $39^{\circ}36'45''$, long. $106^{\circ}03'15''$, in sec. 18, T. 5 S., R. 77 W., 250 feet downstream from highway bridge at Dillon and 200 yards upstream from mouth. Datum of gage is 8,817.97 feet above mean sea level (unadjusted).

Drainage area.- 113 square miles.

Records available.- October 1910 to September 1919, April 1930 to September 1940.

Average discharge.- 20 years (1910-19, 1929-40), 126 second-feet.

Extremes.- Maximum discharge during year, 656 second-feet June 1 (gage height, 3.86 feet); minimum daily, 8 second-feet Jan. 19, 22, Feb. 17.
1910-19, 1930-40: Maximum discharge, 2,010 second-feet June 1, 1933 (gage height, 5.82 feet, site and datum then in use), from rating curve extended above 800 second-feet; minimum, 2 second-feet Feb. 15-17, 20, 1918.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Diversions above station for irrigation and mining. Robinson Reservoir (capacity, 2,520 acre-feet) constructed above station in November 1936.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	32	24	16	15	13	10	38	67	475	188	51	56
2	31	24	16	15	15	11	37	81	505	175	49	54
3	31	27	15	16	15	12	34	110	470	170	45	53
4	31	22	15	16	15	12	34	159	451	163	43	56
5	31	23	16	16	15	12	37	166	415	148	42	52
6	31	24	16	15	*16	11	38	161	358	142	41	51
7	31	25	15	14	15	10	35	180	302	155	42	51
8	31	22	15	16	16	11	34	180	283	131	43	a34
9	32	19	16	*15	14	12	36	216	258	118	41	a35
10	30	17	17	16	15	12	40	269	243	93	41	a37
11	29	15	18	15	14	*11	40	306	262	102	40	a42
12	28	17	16	13	13	10	40	330	283	99	37	41
13	28	18	14	13	12	10	42	330	302	88	32	43
14	27	19	13	12	11	13	46	266	318	83	31	38
15	28	19	13	10	12	14	55	269	290	83	34	38
16	27	18	14	10	11	16	50	290	262	90	33	42
17	27	17	16	11	9	15	45	298	266	106	36	37
18	27	15	13	10	9	18	46	280	282	110	34	37
19	25	14	12	8	11	16	54	269	255	118	33	35
20	24	15	13	10	12	20	60	276	258	90	35	34
21	23	16	13	10	12	21	70	258	252	86	36	33
22	23	16	12	8	11	23	72	225	240	86	41	36
23	22	17	13	9	12	25	75	249	228	75	37	37
24	23	17	12	10	12	29	81	280	213	70	41	43
25	23	16	13	11	11	30	80	298	198	66	55	46
26	25	15	13	12	10	31	84	322	185	63	72	52
27	24	15	12	13	11	31	91	302	178	62	67	59
28	22	16	11	14	10	31	86	290	168	59	56	49
29	23	15	12	13	10	31	75	338	160	57	49	46
30	21	15	13	13	-	33	67	362	163	57	42	45
31	23	-	14	12	-	36	-	438	-	56	38	-
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....							233	32	21	24.9	1,650	
November.....							560	27	14	17.3	1,090	
December.....							437	18	11	14.1	867	
Calendar year 1939.....							39,873	500	11	10.7	79,090	
January.....							391	16	8	17.6	776	
February.....							360	16	8	17.4	714	
March.....							574	36	10	18.5	1,140	
April.....							1,619	91	54	24.0	5,210	
May.....							7,825	438	67	25.2	15,520	
June.....							5,508	505	160	28.3	16,870	
July.....							3,169	188	56	10.7	6,290	
August.....							1,317	72	31	47.5	2,610	
September.....							1,170	59	31	37.0	2,520	
Water year 1939-40.....							26,748	505	8	73.1	55,060	

*Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of records for Blue River at Dillon.

Note.- Stage-discharge relation affected by ice Oct. 30, 31, Nov. 10 to Mar. 19.

Roaring Fork at Aspen, Colo.

Location.- Water-stage recorder, lat. 39°11'20", long. 106°48'55", in sec. 7, T. 10 S., R. 84 W., at Aspen, three-quarters of a mile upstream from Hunter Creek.

Drainage area.- 109 square miles.

Records available.- January 1911 to September 1921 and January 1934 to September 1940 in reports of Geological Survey. January 1911 to September 1921, April 1932 to September 1940 in reports of State engineer. Records since May 24, 1935, equivalent to earlier records if flow diverted through Twin Lakes tunnel is added to flow past station.

Average discharge.- 18 years, 162 second-feet (including flow diverted through Twin Lakes tunnel).

Extremes.- Maximum discharge during year, 463 second-feet June 2 (gage height, 3.27 feet); minimum daily discharge, 3.2 second-feet Aug. 15.

1911-21, 1933-40: Maximum discharge, 3,170 second-feet June 18, 1917 (gage height, 7.2 feet, site and datum then in use, from high-water marks), from rating curve extended above 1,400 second-feet; minimum daily, 15 second-feet July 15, 16, 1934; minimum daily discharge since diversion through Twin Lakes tunnel began, that of Aug. 15, 1940.

Remarks.- Records good except those for periods of ice effect, which are fair. Transmountain diversion at point 15 miles upstream through Twin Lakes tunnel to Arkansas River Basin since May 24, 1935.

Cooperation.- Records of flow diverted through Twin Lakes tunnel furnished by State engineer.

Discharge, in second-feet, water year October 1932 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	11	16	16	16	16	23	69	367	71	8.0	6.2
2	11	11	16	16	16	16	23	68	391	67	7.4	5.7
3	11	11	16	18	17	16	21	90	368	60	6.2	5.7
4	11	10	16	18	16	14	21	126	327	56	7.2	6.0
5	11	11	16	19	16	15	24	136	288	51	7.7	5.7
6	11	12	16	20	16	16	24	122	260	50	7.4	5.5
7	10	11	16	20	16	15	23	151	212	44	9.0	5.7
8	10	9.3	16	21	16	15	21	142	204	37	8.7	6.2
9	11	10	16	23	16	15	22	164	167	34	7.7	6.2
10	10	7.4	14	23	16	16	22	212	149	34	15	6.2
11	10	7.7	14	22	17	16	20	250	160	31	14	6.0
12	10	11	16	23	16	15	19	268	169	27	7.4	5.7
13	10	19	15	22	16	15	22	285	190	24	4.8	7.4
14	10	20	14	20	16	15	26	224	212	23	3.7	12
15	11	19	14	18	16	15	33	215	165	22	3.2	11
16	11	18	16	18	16	16	36	257	157	24	3.3	11
17	11	18	18	18	14	16	31	255	167	22	3.6	11
18	11	17	17	17	14	16	28	207	157	26	3.4	22
19	12	17	16	16	16	16	39	185	146	24	3.6	22
20	12	16	16	17	15	16	55	180	136	22	6.0	20
21	12	17	15	15	14	17	67	164	132	19	7.7	18
22	10	17	15	14	16	18	75	151	134	16	8.4	28
23	8.4	18	15	14	16	19	76	172	117	15	8.4	37
24	8.0	18	16	14	16	21	85	201	108	15	12	48
25	6.4	18	17	15	16	22	83	212	93	13	33	47
26	9.0	17	17	16	16	23	93	231	83	10	48	44
27	9.3	16	16	17	16	24	108	254	78	9.6	50	42
28	6.0	17	14	17	16	23	83	274	71	11	41	39
29	8.7	16	13	16	16	21	72	310	66	11	27	40
30	7.4	17	14	15	-	20	66	302	64	10	18	40
31	12	-	15	15	-	21	-	344	-	9.0	9.3	-

Month	Observed					Diversion by Twin Lakes Tunnel (acre-feet)	Adjusted for diversion	
	Second-foot-days	Maximum	Minimum	Mean	Run-off (acre-feet)		Run-off (acre-feet)	Mean (second-feet)
October.....	315.2	12	6.0	10.2	625	290	915	14.9
November.....	437.4	20	7.4	14.6	568	130	997	16.8
December.....	478	18	13	15.4	948	29	977	15.9
Calendar year 1939	27,988.6	507	6.0	76.7	55,530	35,950	91,480	126
January.....	555	23	14	17.9	1,100	32	1,130	18.4
February.....	458	17	14	15.8	908	41	950	16.5
March.....	537	24	14	17.3	1,070	51	1,120	18.2
April.....	1,341	108	19	44.7	2,660	451	3,110	52.3
May.....	6,244	344	59	201	12,380	6,960	21,340	347
June.....	5,375	391	64	179	10,660	13,510	24,170	406
July.....	891.6	71	9.0	28.8	1,770	2,380	4,150	67.5
August.....	400.1	50	3.2	12.9	794	90	884	14.4
September.....	570.2	48	5.5	19.0	1,130	1,050	2,210	37.2
Water year 1939-40	17,602.6	391	3.2	48.1	34,910	27,040	61,950	85.3

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 18-22, Dec. 13-16, Dec. 17 to Jan. 5, Jan. 8, Jan. 13 to Feb. 5, Feb. 7, 13-16, 18, 19, and Mar. 13, 14.

TRIBUTARIES ABOVE GREEN RIVER

Roaring Fork at Glenwood Springs, Colo.

Location.— Water-stage recorder, lat. 39°33', long. 107°20', in sec. 9, T. 6 S., R. 89 W., at Glenwood Springs, 1,500 feet upstream from mouth. Datum of gage is 5,720.73 feet above mean sea level (general adjustment of 1912).

Drainage area.— 1,460 square miles.

Records available.— April 1906 to September 1909, September 1910 to September 1931, and October 1933 to September 1940 in reports of Geological Survey. April 1906 to September 1909 and September 1910 to September 1940 in reports of State engineer.

Average discharge.— 33 years, 1,494 second-feet.

Extremes.— Maximum discharge during year, 5,320 second-feet June 1 (gage height, 4.38 feet); minimum daily, 220 second-feet Aug. 18.

1906-9, 1910-40: Maximum discharge, 17,600 second-feet June 14, 1918, June 14, 1921; minimum, 145 second-feet Jan. 21, 1935 (gage height, 0.65 foot); minimum daily, 179 second-feet Jan. 21, 1935.

Remarks.— Records excellent above 500 second-feet and good below. Diversions above station for irrigation. Transmountain diversion through Twin Lakes tunnel to Arkansas River Basin. Total flow diverted during water year 1939-40 was 27,040 acre-feet (see p. 57 for record by months).

Rating table, water year 1939-40, except period of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Mar. 27 to May 8, June 23 to July 27, Aug. 1 to Sept. 30)

0.7	220	2.9	2,520
1.0	415	3.7	3,920
1.3	660	4.1	4,720
2.3	1,740		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	615	475	366	359	326	319	422	915	4,540	1,460	326	482
2	597	490	359	326	326	306	452	882	4,520	1,430	300	460
3	597	482	359	352	312	300	415	1,110	4,340	1,360	280	452
4	606	475	359	326	306	286	380	1,670	3,880	1,270	262	438
5	606	475	359	326	300	293	394	1,990	3,600	1,180	250	422
6	597	475	352	319	268	306	415	1,850	3,270	1,110	250	394
7	588	475	352	312	312	293	408	2,030	2,650	1,020	256	380
8	588	475	352	268	280	286	373	1,970	2,630	981	262	359
9	615	475	352	345	300	293	366	2,310	2,230	926	238	366
10	597	475	345	332	300	300	373	2,610	1,900	882	226	380
11	579	468	345	326	293	332	359	3,070	1,960	850	256	373
12	570	468	338	326	293	300	326	3,150	2,230	790	268	352
13	554	468	286	326	256	262	338	3,540	2,550	730	244	422
14	546	468	306	293	268	262	387	3,060	3,000	670	244	514
15	530	468	319	232	332	293	475	2,860	3,020	642	244	498
16	522	452	339	232	293	312	546	3,070	2,460	633	232	530
17	522	422	338	326	244	332	546	3,360	2,600	642	226	562
18	514	401	345	359	268	319	498	2,650	2,660	660	220	750
19	506	380	274	256	319	326	554	2,280	2,510	633	256	970
20	498	359	268	326	286	332	730	2,320	2,440	615	256	992
21	498	380	326	394	262	338	926	2,280	2,270	562	280	915
22	490	373	300	319	300	352	1,070	1,990	2,310	530	326	1,020
23	475	373	326	293	293	380	1,120	1,980	2,110	506	319	1,040
24	460	380	319	b245	300	408	1,270	2,510	2,020	468	345	1,000
25	460	380	326	b255	286	445	1,500	2,580	1,790	452	462	970
26	482	373	332	b280	300	475	1,210	2,700	1,710	438	624	926
27	490	380	268	b330	300	490	1,370	2,930	1,560	415	770	882
28	482	373	250	b350	306	490	1,280	3,060	1,530	401	760	830
29	468	366	256	338	319	438	1,120	3,520	1,480	408	660	904
30	468	359	359	338	-	401	530	3,630	1,420	394	579	959
31	468	-	401	338	-	408	-	4,120	-	373	530	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	16,588	615	460	535	32,900
November.....	12,863	490	369	429	25,510
December.....	10,175	401	250	328	20,180
Calendar year 1939.....	374,409	5,270	250	1,096	742,600
January.....	9,747	394	232	314	19,330
February.....	8,548	332	244	295	16,950
March.....	10,677	490	262	344	21,180
April.....	19,953	1,370	326	665	39,580
May.....	77,997	4,180	882	2,616	154,700
June.....	77,190	4,640	1,420	2,873	153,100
July.....	23,431	1,460	373	756	46,470
August.....	10,731	770	220	346	21,280
September.....	19,542	1,040	352	651	38,760
Water year 1939-40.....	297,442	4,540	220	1,13	589,900

b Stage-discharge relation affected by ice.

Crystal River near Redstone, Colo.

Location.- Water-stage recorder, lat. 39°18', long. 107°13', in NE¼ sec. 9, T. 9 S., R. 88 W., 75 feet downstream from Nettle Creek and 7 miles downstream from Redstone. Datum of gage is 6,485.07 feet above mean sea level (unadjusted).

Drainage area.- 197 square miles.

Records available.- May 1935 to September 1940. 1908-9 at site 3 miles downstream; records not equivalent.

Extremes.- Maximum discharge during year, 2,090 second-feet June 1 (gage height, 4.14 feet); minimum daily, 46 second-feet Jan. 15.

1935-40: Maximum discharge, 4,400 second-feet June 21, 1938 (gage height, 5.96 feet), from rating curve extended above 2,200 second-feet; minimum daily, that of Jan. 15, 1940.

Remarks.- Records good. Diversions above station for irrigation.

Rating table, water year 1939-40, except periods of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Mar. 25 to May 14, Sept. 19-30)

0.6	46	1.4	166	2.9	800
.7	56	2.0	340	3.4	1,250
1.0	94	2.4	490	3.9	1,850
1.3	144	2.7	650		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	104	97	70	64	64	63	102	269	1,650	450	93	100
2	97	97	70	61	64	62	105	326	1,760	400	91	115
3	96	97	68	64	62	57	97	442	1,620	378	86	104
4	107	94	68	62	61	53	93	626	1,520	361	83	90
5	102	94	66	64	58	56	99	845	1,370	344	79	76
6	102	94	67	64	56	60	108	713	1,150	319	78	70
7	99	93	68	60	62	57	107	818	971	319	93	69
8	100	91	68	57	55	58	102	800	962	310	83	66
9	105	88	67	66	60	57	99	1,020	713	280	76	86
10	100	87	67	63	60	57	99	1,250	620	262	75	99
11	99	83	68	62	58	62	94	1,350	800	244	76	87
12	96	83	69	64	56	54	86	1,340	1,010	228	74	83
13	93	83	67	61	50	53	88	1,410	1,150	214	72	108
14	90	83	68	56	63	51	108	1,290	1,270	205	67	115
15	88	80	66	b46	61	54	142	1,300	1,270	202	64	107
16	100	79	68	b47	56	61	157	1,370	1,070	202	62	105
17	110	79	68	b58	50	66	142	1,290	1,100	216	58	121
18	108	76	66	b60	55	63	140	962	1,160	200	57	274
19	105	75	54	51	61	63	194	935	1,110	177	78	322
20	104	73	b54	63	53	66	280	1,010	980	159	87	337
21	102	75	b57	66	51	69	361	953	863	146	87	289
22	102	74	55	54	56	78	414	752	836	142	94	347
23	99	75	b57	b52	55	91	450	872	760	131	81	316
24	99	75	b58	b50	55	107	499	1,090	706	130	108	289
25	97	74	b58	b54	54	124	470	1,210	620	121	144	256
26	110	73	58	b59	56	130	462	1,220	574	120	200	242
27	108	72	47	b60	58	128	499	1,280	530	113	216	219
28	100	72	b60	61	61	124	446	1,390	526	128	200	208
29	99	72	b60	58	63	105	378	1,530	494	126	180	283
30	97	69	b66	61	-	96	325	1,550	474	108	148	307
31	97	-	70	66	-	97	-	1,680	-	99	121	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						3,115	110	88	100	6,180		
November.....						2,457	97	69	81.9	4,870		
December.....						1,965	70	47	63.4	3,900		
Calendar year 1939.....						105,416	1,650	47	289	209,100		
January.....						1,834	66	46	59.2	3,640		
February.....						1,674	64	50	57.7	3,320		
March.....						2,322	130	51	74.9	4,610		
April.....						6,746	499	86	225	13,380		
May.....						32,975	1,680	289	1,064	65,400		
June.....						29,669	1,760	474	989	58,860		
July.....						6,834	460	99	220	13,560		
August.....						3,111	216	57	100	6,170		
September.....						5,290	347	66	176	10,490		
Water year 1939-40.....						97,992	1,760	46	268	194,400		

b Stage-discharge relation affected by ice.

TRIBUTARIES ABOVE GREEN RIVER

West Divide Creek below Willow Creek, near Raven, Colo.

Location.- Water-stage recorder, lat. 39°17', long. 107°31', in NE¼ sec. 14, T. 9 S., R.

91 W., a quarter of a mile downstream from Willow Creek and 15 miles south of Raven.

Drainage area.- 32.7 square miles.

Records available.- October 1938 to September 1940.

Extremes.- Maximum discharge during year, 271 second-feet May 9 (gage height, 1.91 feet), from rating curve extended above 170 second-feet; no flow on many days.

1938-40: Maximum discharge, that of May 9, 1940; no flow during parts of each year.

Remarks.- Records excellent above 10 second-feet and good below except those for periods of ice effect or no gage-height record, which are fair.

Flow increased above station by diversion from Clear Fork of East Muddy Creek (Gunnison River Basin) through Clear Fork ditch, and by diversion from Thompson Creek (Roaring Fork Basin) through Thompson Creek feeder ditch in the amounts given in the following table.

Ditch	Month	Diversion (acre-feet)
Clear Fork ditch.....	May	131
	June	829
	July	57
Thompson Creek feeder ditch..	May	149
	June	392
	July	21

Rating table, water year 1939-40, except period of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used June 30 to July 24)

0.1	0	0.6	9	1.1	72
.2	.1	.7	17	1.4	136
.3	.8	.8	28	1.6	186
.4	2.2	.9	40		
.5	4	1.0	55		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.7	1.2	0.1			-	11	55	92	8.0	0	0
2	.7	1.2	0			-	7.0	84	90	7.0	0	0
3	.7	1.1	0			-	4.5	129	86	5.5	0	0
4	.7	1.1	0			-	3.8	170	82	5.0	0	0
5	.8	1.1	0			-	4.0	181	78	4.0	0	0
6	.8	1.1	0			-	5.5	183	76	3.5	0	0
7	.8	.9	0			-	4.5	168	64	3.3	0	0
8	1.2	.8	0			-	3.8	176	60	2.7	0	0
9	1.8	.9	0			-	3.8	186	52	2.6	0	0
10	1.5	.7	0			-	3.6	176	46	2.6	0	0
11	1.8	.8	0			-	2.9	178	44	2.6	0	0
12	1.8	.8	0			-	4.0	178	44	2.4	0	0
13	1.6	.8	.1			-	8.0	186	44	2.1	0	0
14	1.6	.7	.1			*b0.8	19	173	43	1.6	0	.3
15	1.6	.7	.1			b1	30	168	42	1.2	0	.4
16	1.4	.1	.1			b1.4	29	173	38	1.4	0	.2
17	1.2	0	0			b1.8	20	143	33	1.4	0	.3
18	1.2	0	0			b1.6	16	125	30	1.5	0	2.6
19	1.6	0	0			b1.8	28	121	26	1.2	0	2.1
20	.7	0	0			b2	43	112	25	.7	0	1.9
21	.7	0	0			b2.5	64	112	24	.6	0	1.8
22	.7	0	0			b4	67	99	20	.4	0	2.6
23	.7	0	0			b6	74	92	15	.2	0	1.9
24	.7	0	0			b8	86	94	13	.1	.1	1.8
25	.8	0	0			b10	99	84	11	.1	.7	1.2
26	1.6	0	a0			b12	105	84	9	0	1.5	1.2
27	1.4	0	a0			b10	103	84	8	0	.9	1.1
28	.9	.1	a0			b8	80	94	6.5	0	.6	.9
29	1.1	.1	a0			b7	62	101	5.5	.2	.3	1.8
30	.9	.1	a0			7.5	55	94	7.0	.2	.1	3.5
31	1.2	-	a0			9.8	-	90	-	.1	0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	34.6	1.8	0.7	1.12	69
November.....	14.3	1.2	0	.48	28
December.....	.5	.1	0	.02	1.0
Calendar year 1939.....	7,265.8	183	0	19.9	14,410
January.....	-	-	-	-	-
February.....	-	-	-	-	-
March 1-31.....	95.2	12	.8	5.29	189
April.....	1,046.4	105	2.9	34.9	2,080
May.....	4,093	186	55	132	8,120
June.....	1,214.0	92	5.5	40.5	2,410
July.....	62.1	8.0	0	2.00	123
August.....	4.2	1.5	0	.14	8.3
September.....	25.6	3.5	0	.85	51
Water year.....	-	-	-	-	-

*Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of weather records.

b Stage-discharge relation affected by ice.

Plateau Creek near Collbran, Colo.

Location.- Water-stage recorder, lat. 39°15', long. 107°50', in NW¼ sec. 24, T. 9 S., R. 94 W., 7 miles east of Collbran.

Drainage area.- 88 square miles.

Records available.- August 1921 to September 1927 (monthly discharge) and October 1933 to September 1940 in reports of Geological Survey. August 1921 to September 1940 in reports of State engineer.

Average discharge.- 19 years, 99.6 second-feet.

Extremes.- Maximum discharge during year, 1,310 second-feet May 9 (gage height, 4.56 feet); minimum daily, 4.7 second-feet Dec. 28.

1921-40: Maximum discharge, 2,800 second-feet May 28, 1922 (gage height, 6.72 feet, site and datum then in use), from rating curve extended above 1,300 second-feet; minimum daily, 3 second-feet Sept. 21, 1926.

Remarks.- Records good except those for periods of ice effect, which are fair. Five small diversions above station.

Rating table, period May 15 to Sept. 30, 1940 (gage height, in feet, and discharge, in second-feet)

1.7	6.5	2.5	48	3.4	252
1.8	8.5	2.6	60	3.6	335
1.9	11.5	2.7	74	3.8	450
2.0	15	2.8	91	4.1	680
2.1	19.5	3.0	132		
2.3	31	3.2	186		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.6	10	6.3	8.7	8.0	10	21	125	124	23	12	7.7
2	7.8	10	6.3	8.5	8.0	9.6	19	163	115	25	10	7.5
3	7.8	9.2	7.2	7.8	7.8	9.0	19	260	109	20	9.7	7.5
4	8.2	9.6	6.9	7.5	7.3	10	16	414	93	19	9.4	7.7
5	8.2	8.2	6.6	7.6	6.8	11	17	499	81	19	10	7.5
6	10	9.2	6.6	7.2	7.4	9.0	19	584	81	20	9.4	7.3
7	8.9	7.8	6.6	6.8	7.8	10	17	568	68	22	12	7.5
8	9.2	7.8	6.9	6.6	7.4	11	17	584	59	21	9.4	7.7
9	11	9.6	6.9	6.7	7.0	9.0	17	740	53	20	6.5	7.9
10	9.6	7.5	6.6	6.9	7.8	10	17	780	46	19	9.1	7.9
11	11	11	7.5	6.9	7.5	9.0	16	760	43	19	10	7.1
12	10	10	6.6	6.8	6.8	8.0	16	740	37	18	9.1	6.5
13	10	10	6.0	6.8	6.4	8.2	19	760	34	17	7.3	8.5
14	9.6	9.6	6.4	7.1	*9.2	*8.4	36	700	32	16	6.9	12
15	8.9	9.2	7.2	6.4	8.6	8.8	61	632	30	13	6.5	11
16	8.6	8.6	7.5	5.3	8.2	9.0	59	592	28	12	7.1	8.8
17	8.9	7.2	7.8	4.8	8.0	9.2	42	368	24	13	7.1	11
18	8.6	6.6	7.5	4.9	9.2	9.2	41	357	22	13	7.1	107
19	8.6	5.6	6.9	4.8	8.6	9.6	71	362	20	14	8.1	84
20	7.8	5.2	7.2	5.0	8.0	11	99	294	19	12	11	42
21	8.2	5.8	5.5	5.1	7.4	13	130	271	22	11	8.3	29
22	7.8	7.2	5.8	5.0	8.0	15	158	252	21	11	9.4	36
23	7.8	7.5	6.2	4.9	9.0	20	205	228	21	12	12	41
24	7.8	7.8	6.4	5.6	10	25	287	208	18	15	15	66
25	8.6	7.8	6.2	5.9	10	32	263	202	16	14	26	60
26	10	7.5	5.6	6.0	11	37	286	186	15	13	21	29
27	10	6.9	5.0	6.2	12	38	290	172	15	12	14	22
28	10	7.8	4.7	6.8	12	29	212	164	14	16	9.7	24
29	11	7.8	5.8	6.8	11	28	166	158	14	17	8.1	55
30	10	6.6	7.5	7.1	-	18	135	140	21	18	7.9	70
31	9.6	-	8.4	7.6	-	19	-	130	-	13	7.5	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						282.1	11	7.8	9.10	550		
November.....						244.5	11	5.2	8.15	485		
December.....						204.6	8.4	4.7	6.60	406		
Calendar year 1939.....						20,525.9	608	4.7	56.2	40,720		
January.....						200.1	8.7	4.8	6.45	397		
February.....						246.2	12	6.4	8.49	488		
March.....						463.0	38	8.0	14.9	918		
April.....						2,750	290	16	91.7	5,460		
May.....						12,390	780	125	400	24,680		
June.....						1,295	124	14	43.2	2,870		
July.....						507	25	11	16.4	1,010		
August.....						318.6	26	6.5	10.3	632		
September.....						806.1	107	6.5	26.9	1,600		
Water year 1939-40.....						19,707.2	780	4.7	53.8	39,100		

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 20, 21, Dec. 13, 14, Dec. 22 to Mar. 16.

Plateau Creek near Cameo, Colo.

Location.- Water-stage recorder, lat. $39^{\circ}11'$, long. $108^{\circ}16'$, in SW $\frac{1}{4}$ sec. 18, T. 10 S., R. 97 W., 1.1 miles upstream from mouth and 4 miles northeast of Cameo.

Drainage area.- 604 square miles.

Records available.- April 1936 to September 1940.

Extremes.- Maximum discharge during year, 1,800 second-feet May 13 (gage height, 5.08 feet); minimum daily, 16 second-feet July 14, 15, Aug. 17, 18.

1936-40: Maximum discharge, 2,550 second-feet May 29, 1938 (gage height, 6.07 feet), from rating curve extended above 1,400 second-feet; minimum daily, that of July 14, 15, Aug. 17, 18, 1940.

Remarks.- Records excellent except those for periods of ice effect, which are fair. Many diversions above station for irrigation.

Rating table, water year 1939-40, except periods of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 1-25, Feb. 5 to Apr. 2)

1.2	13	1.7	55	2.6	305
1.3	20	1.8	82	2.8	390
1.4	28	2.0	120	3.0	495
1.5	37	2.2	170	4.5	1,390
1.6	50	2.4	230		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	54	59	58	78	68	96	150	341	142	35	18	25
2	52	59	56	74	68	82	140	381	128	31	17	26
3	53	60	58	68	68	80	102	544	120	30	18	26
4	54	59	58	59	64	68	112	820	108	26	19	31
5	56	60	58	62	62	77	122	964	95	26	19	27
6	56	60	59	60	56	82	125	1,010	96	23	19	26
7	56	60	58	59	68	65	114	1,100	86	22	20	27
8	58	64	56	56	62	69	110	928	72	22	21	26
9	59	68	60	59	60	72	108	1,040	68	19	20	26
10	60	67	60	58	64	72	110	1,340	60	19	21	26
11	59	59	59	59	62	79	95	1,310	46	19	21	25
12	60	62	58	62	58	62	84	1,230	41	18	20	24
13	59	64	46	64	52	52	91	1,290	36	18	19	28
14	58	64	56	52	75	53	132	1,290	35	16	18	28
15	58	62	53	48	74	59	206	1,060	32	16	18	28
16	58	59	56	44	59	72	227	1,070	29	19	18	28
17	52	56	58	42	59	77	170	802	28	21	16	29
18	53	54	59	42	79	68	160	534	27	22	16	56
19	54	54	45	38	70	70	191	580	25	22	19	132
20	56	58	48	43	60	74	258	544	23	22	19	74
21	50	60	51	44	58	74	317	435	26	22	19	62
22	49	59	52	42	67	82	372	381	25	22	18	62
23	50	59	54	41	68	93	390	325	22	22	22	72
24	49	59	55	45	86	112	528	293	22	22	45	80
25	50	59	53	49	84	128	628	254	21	20	45	58
26	64	59	47	51	118	152	592	258	19	19	82	53
27	37	68	44	53	106	185	736	240	20	20	40	50
28	59	62	42	60	104	191	610	215	19	22	33	47
29	60	64	44	59	110	148	490	203	20	23	31	91
30	60	60	51	62	-	118	420	179	23	20	28	206
31	59	-	70	65	-	120	-	158	-	19	25	-
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....							1,744	67	49	55.3	3,450	
November.....							1,617	58	54	60.6	3,620	
December.....							1,682	70	42	54.3	3,340	
Calendar year 1939.....							48,182	982	20	132	95,680	
January.....							1,695	78	38	54.7	3,360	
February.....							2,089	118	52	72.0	4,140	
March.....							2,831	191	52	91.3	5,620	
April.....							7,890	736	84	263	15,650	
May.....							21,119	1,340	158	691	41,880	
June.....							1,504	142	19	50.1	2,930	
July.....							677	35	16	21.9	1,340	
August.....							664	82	16	24.6	1,520	
September.....							1,499	206	24	50.0	2,970	
Water year 1939-40.....							45,311	1,340	16	124	89,870	

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Dec. 20 to Jan. 3, Jan. 14 to Feb. 4.

Buzzard Creek near Heiberger, Colo.

Location.- Water-stage recorder, lat. $39^{\circ}17'$, long. $107^{\circ}43'$, in NE $\frac{1}{4}$ sec. 13, T. 9 S., R. 93 W., 1.1 miles downstream from Hightower ranger station and 3 miles east of Heiberger.

Drainage area.- 76.5 square miles.

Records available.- April 1936 to September 1940.

Extremes.- Maximum discharge during year, 320 second-feet May 4 (gage height, 3.40 feet); no flow on many days.
1936-40: Maximum discharge, 720 second-feet Apr. 30, 1938 (gage height, 4.45 feet), from rating curve extended above 430 second-feet; no flow at times in each year.

Remarks.- Records good. One diversion above station to West Divide Creek for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	1.4	.7			-	16	46	23	.7		0
2	0	1.4	.6			-	12	64	20	.6		0
3	0	1.4	.6			-	13	117	18	1.1		0
4	0	1.2	.5			-	12	178	18	1.0		0
5	0	1.3	.4			-	13	196	16	.6		0
6	0	1.2	.4			-	16	171	15	.4		0
7	0	1.2	.4			-	13	187	16	.2		0
8	0	1.1	.5			-	13	107	15	.1		0
9	0	1.3	.6			-	14	120	10	.1		0
10	0	1.1	.7			-	12	138	8.1	.1		0
11	0	1	.9			-	9.7	136	6.3	.1		0
12	0	1	.9			-	9.7	120	5.5	.1		0
13	0	1	.7			-	16	120	4.7	0		0
14	0	1.1	.6			-	31	151	3.8	0		0
15	0	1	.8			-	44	153	4.6	0		0
16	0	.6	.2			2.1	37	180	5.0	0		0
17	0	.7	.1			2.1	33	117	6.3	.1		0
18	0	.6	0			2.1	28	86	3.9	0		0
19	0	.6	0			2.1	41	81	2.7	0		0
20	0	.5	0			2.1	60	74	2.1	0		0
21	0	.5	.1			2.2	74	70	1.8	0		0
22	0	.5	b.1			2.3	78	59	2.2	0		.6
23	0	.5	b.1			2.3	82	47	3.1	0		2.1
24	0	.4	b.1			2.3	107	41	2.9	0		3.6
25	0	.5	0			2.3	144	48	2.2	0		1.7
26	.4	.6	0			2.4	136	36	1.6	0		1.1
27	2.6	.7	0			2.4	132	38	1.2	0		.6
28	2.6	.7	0			2.4	83	34	.8	0		.6
29	2.4	.7	0			2.6	63	28	.6	0		.9
30	1.6	.6	0			2.6	52	26	.5	0		3.8
31	1.4	-	0			4.5	-	26	-	0		-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						11.0	2.6	0	0.36	22		
November.....						26.6	1.4	.4	.88	55		
December.....						10.0	.9	0	.32	20		
Calendar year						-	-	-	-	-		
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March 16-31.....						38.8	4.6	2.1	2.42	77		
April.....						1,393.4	144	9.7	46.4	2,760		
May.....						2,942	196	25	94.9	5,840		
June.....						218.7	25	.5	7.29	434		
July.....						5.2	1.1	0	.17	10		
August.....						0	0	0	0	0		
September.....						14.7	3.8	0	.49	29		
Water year						-	-	-	-	-		

b Stage-discharge relation affected by ice.

TRIBUTARIES ABOVE GREEN RIVER

Buzzard Creek near Collbran, Colo.

Location.- Water-stage recorder, lat. 39°16', long. 107°52', in sec. 14, T. 9 S., R. 94 W., half a mile upstream from Brush Creek and 7 miles east of Collbran.

Drainage area.- 139 square miles.

Records available.- August 1921 to September 1927 (monthly discharge only), October 1933 to September 1940 in reports of Geological Survey. August 1921 to September 1940 in reports of State engineer.

Average discharge.- 19 years, 53.0 second-feet.

Extremes.- Maximum discharge during year, 345 second-feet May 7 (gage height, 3.96 feet); minimum daily, 0.4 second-foot Aug. 3-9, 12, 14-19, 22, 29-31, Sept. 1-6, 8-12, 14, 1921-40: Maximum discharge, 1,270 second-feet May 8, 1922 (gage height, 7.8 feet), from rating curve extended above 800 second-feet; minimum, 0.1 second-foot Aug. 27, 1934 (gage height, 0.76 foot).

Remarks.- Records excellent except those below 5 second-feet which are fair. Several diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.2	2.9	0.9	0.8	1.2	3.4	71	107	20	1.8	0.5	0.4
2	1.1	2.8	.9	.8	1.3	4.1	48	123	19	1.6	.5	.4
3	1.1	2.6	.8	.8	1.3	4.6	29	171	18	1.2	.4	.4
4	1.2	2.6	.8	.8	1.2	5.8	32	248	15	1.2	.4	.4
5	1.2	2.6	.9	.9	1.2	5.0	54	280	14	1.2	.4	.4
6	1.4	2.5	.9	.9	1.1	4.1	56	271	12	1.1	.4	.4
7	1.2	2.2	.8	.9	1.3	5.0	42	276	13	1.0	.4	.5
8	1.4	1.9	.8	.8	1.2	3.1	40	240	11	1.1	.4	.4
9	1.6	2.4	.8	.8	1.2	5.0	41	233	9.8	1.0	.4	.4
10	1.6	2.1	.9	.8	1.2	3.2	43	262	8.6	1.1	.5	.4
11	1.5	2.1	.7	.8	1.1	2.9	23	251	7.0	1.1	.5	.4
12	1.5	1.8	.6	.8	1.0	3.2	19	239	4.1	1.1	.4	.4
13	1.5	1.8	.7	.9	1.0	3.2	32	215	2.9	1.0	.5	.5
14	1.5	1.7	.8	.9	*1.6	3.2	88	237	2.8	1.1	.4	.4
15	1.5	1.9	1.0	.7	1.6	3.7	109	201	2.5	1.5	.4	.5
16	1.5	1.7	1.1	.6	1.3	4.4	110	206	2.4	1.5	.4	.5
17	1.5	1.7	1.4	.6	1.3	4.6	74	184	2.2	1.5	.4	.6
18	1.6	1.7	1.2	.6	2.0	6.2	71	136	2.1	1.4	.4	.6
19	1.6	1.6	1.1	.6	1.9	6.2	78	126	1.7	1.5	.4	.6
20	1.4	.9	.9	.7	1.8	6.2	113	123	1.7	1.4	.5	.6
21	1.4	.9	.8	.7	1.7	8.0	158	106	1.7	1.4	.5	.6
22	1.5	.9	.8	.7	2.0	14	163	96	1.5	1.4	.4	.6
23	1.5	1.4	.8	.7	2.3	18	156	75	1.4	1.2	.6	.6
24	1.6	1.0	.8	.8	2.7	34	187	62	1.4	1.2	.6	.6
25	1.7	.9	.7	.8	3.2	44	269	68	1.4	1.1	.6	1.0
26	2.4	1.0	.7	.9	3.2	68	224	55	1.2	1.0	.8	1.0
27	2.9	1.0	.7	.9	3.7	65	233	54	1.2	1.1	.6	.6
28	3.1	.9	.6	1.0	3.7	63	182	41	1.2	1.1	.5	.8
29	2.9	1.0	.6	1.0	3.4	43	148	32	1.0	.6	.4	2.9
30	2.9	.8	.6	1.1	-	28	132	25	1.6	.6	.4	14
31	2.9	-	.7	1.2	-	71	-	22	-	.6	.4	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	52.9	3.1	1.1	1.71	105
November.....	51.3	2.9	.8	1.71	102
December.....	25.8	1.4	.6	.83	51
Calendar year 1939.....	10,261.7	267	.5	28 1	20,350
January.....	25.3	1.2	.6	.82	50
February.....	52.7	3.7	1.0	1.82	105
March.....	563.1	85	2.9	18.2	1,120
April.....	3,025	269	19	101	6,000
May.....	4,765	280	22	154	9,450
June.....	183.4	20	1.0	6.11	364
July.....	56.5	1.6	.6	1.18	72
August.....	14.4	.8	.4	.46	29
September.....	31.9	14	.4	1.06	63
Water year 1939-40.....	8,827.3	280	.4	24.1	17,510

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Dec. 27-30, Jan. 7 to Feb. 24.

Taylor Park Reservoir at Taylor Park, Colo.

Staff gage, lat. 38°49', long. 106°36', at dam in sec. 16, T. 14 S., R. 83 W., on Taylor River just downstream from Taylor Park and 17 miles northeast of Almont, Colo. Datum of gage is 9,187 feet above mean sea level (Bureau of Reclamation bench mark). Records available, October 1938 to September 1940 in reports of Geological Survey, September 1937 to September 1938 in files of Bureau of Reclamation. Maximum contents observed during year, 85,400 acre-feet July 4 (elevation, 9,319.00 feet); minimum, 9,980 acre-feet Sept. 20-22 (elevation, 9,243.55 feet). Maximum contents observed during period 1938-40, 108,820 acre-feet May 31, 1939 (elevation, 9,331.25 feet); minimum, that of Sept. 20-22, 1940.

Reservoir is formed by earth and rock-fill dam; storage began in September 1937. Capacity, 106,230 acre-feet between elevations 9,187 feet (bottom of outlet tunnel) and 9,330 feet (crest of spillway). No dead storage. Water used for irrigation in Uncompahgre Valley. Gages read once daily. Records furnished by Uncompahgre Valley Water Users' Association.

No other reservoirs of any consequence in Gunnison River Basin. Figures given in the following table are of usable contents.

Elevation and contents, water year October 1939 to September 1940

Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30.....	9,285.45	37,850	-
Oct. 31.....	9,274.55	28,340	-9,510
Nov. 30.....	9,277.30	30,540	+2,200
Dec. 31.....	9,279.05	32,040	+1,500
Calendar year 1939.....	-	-	-27,860
Jan. 31.....	9,281.15	33,940	+1,900
Feb. 29.....	9,283.35	35,920	+1,980
Mar. 31.....	9,286.40	38,800	+2,880
Apr. 30.....	9,292.05	45,060	+6,260
May 31.....	9,309.25	68,700	+23,640
June 30.....	9,318.25	84,050	+15,350
July 31.....	9,300.45	55,630	-28,420
Aug. 31.....	9,272.25	26,600	-29,030
Sept. 30.....	9,245.70	10,840	-15,760
Water year 1939-40.....	-	-	-27,010

Taylor River below Taylor Park Reservoir, Colo.

Location.- Water-stage recorder, lat. 38°49', long. 106°36', in sec. 24, T. 14 S., R. 83 W., a quarter of a mile downstream from Taylor Park Dam and 16 miles northeast of Almont.

Drainage area.- 155 square miles.

Records available.- October 1938 to September 1940. June 1929 to August 1934, summation of records for Taylor River, Texas Creek, and Willow Creek at Taylor Park practically equivalent.

Extremes.- Maximum discharge during year, 825 second-feet Oct. 3 (gage height, 3.50 feet); no flow May 1 to July 3.
1938-40: Maximum discharge, that of Oct. 3, 1939; no flow May 1 to July 3, 1940.

Remarks.- Records good. Flow regulated since September 1937 by Taylor Park Reservoir (capacity, 106,000 acre-feet). One small diversion from Willow Creek above reservoir.

Cooperation.- Gage-height record and results of discharge measurements furnished by Uncompaggre Valley Water Users' Association.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	312	25	10	20	20	14	14			0	590	570
2	315	25	10	20	20	14	14			0	595	555
3	682	25	10	20	20	14	14			0	610	560
4	160	25	10	20	20	14	14			202	620	550
5	125	25	10	20	20	14	14			385	640	550
6	182	25	10	20	20	14	14			496	682	530
7	215	25	10	20	20	14	14			545	630	545
8	215	25	10	20	20	14	14			570	555	550
9	218	25	10	20	20	14	14			595	590	540
10	212	25	10	20	20	14	14			650	600	530
11	210	25	10	20	20	14	14			676	575	580
12	208	25	10	20	20	14	71			676	590	650
13	208	25	10	20	20	14	99			676	620	635
14	208	25	10	20	20	14	99			660	630	590
15	208	25	10	20	20	14	99			682	660	506
16	208	25	10	20	20	14	44			666	660	465
17	208	25	10	20	20	14	10			615	645	277
18	208	25	10	20	20	14	10			535	565	196
19	208	25	10	20	20	14	10			515	21	150
20	208	25	10	20	20	14	10			600	635	64
21	210	20	10	20	20	14	10			666	630	74
22	210	20	10	20	20	14	10			682	580	86
23	210	20	10	20	20	14	10			650	585	82
24	226	20	10	20	20	14	10			655	580	66
25	265	20	10	20	20	14	10			655	555	64
26	250	20	10	20	20	14	10			660	445	59
27	250	20	10	20	20	14	10			671	265	57
28	250	20	10	20	20	14	10			635	210	57
29	250	20	10	20	20	14	10			615	346	57
30	150	15	10	20	-	14	10			610	501	57
31	27	-	10	20	-	14	-			590	570	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	7,016	682	27	22f	13,920
November.....	695	25	15	2f.2	1,380
December.....	310	10	10	1f	615
Calendar year 1939.....	75,642	814	10	20f	150,000
January.....	620	20	20	2f	1,230
February.....	580	20	20	2f	1,150
March.....	454	14	14	1f	951
April.....	706	99	10	2f.5	1,400
May.....	0	0	0	0	0
June.....	0	0	0	0	0
July.....	16,823	682	0	54f	33,370
August.....	16,990	682	21	54f	33,700
September.....	10,262	650	57	34f	20,350
Water year 1939-40.....	54,436	682	0	14f	108,000

Taylor River at Almont, Colo.

Location.- Water-stage recorder, lat. 38°40', long. 106°51', in sec. 22, T. 51 N., R. 1 E., at Almont, 800 feet upstream from confluence with East River. Datum of gage is 8,011.98 feet above mean sea level (general adjustment of 1912).

Drainage area.- 440 square miles.

Records available.- July 1910 to September 1931 and October 1933 to September 1940 in reports of Geological Survey. July 1910 to September 1940 in reports of State engineer.

Average discharge.- 30 years, 360 second-feet.

Extremes.- Maximum discharge during year, 856 second-feet Oct. 3 (gage height, 2.97 feet); minimum daily, 35 second-feet Jan. 15, 16.

1910-40: Maximum discharge, 3,760 second-feet June 9, 1920 (gage height, 5.0 feet), from rating curve extended above 2,300 second-feet; minimum before storage began in Taylor Park Reservoir, 50 second-feet several days in August 1913 (gage height, 1.2 feet); minimum daily, 24 second-feet Mar. 12, 1938.

Remarks.- Records good except those for periods of ice effect, which are fair. Flow partly regulated since September 1937 by Taylor Park Reservoir (capacity, 106,000 acre-feet), 24 miles above station. Diversions from tributaries above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	368	86	74	52	51	49	56	63	196	65	648	584
2	368	83	74	52	52	48	56	74	193	58	648	584
3	752	81	72	52	50	48	50	95	186	58	656	577
4	240	78	65	53	48	49	49	124	172	136	664	570
5	179	78	65	53	44	49	52	118	158	396	680	564
6	208	83	61	52	43	48	54	86	144	505	728	564
7	267	78	49	50	46	47	50	98	130	564	712	564
8	262	76	50	45	48	49	50	83	118	584	626	564
9	267	81	58	49	47	50	50	98	115	605	619	557
10	258	76	61	51	*47	49	50	124	109	633	633	550
11	249	76	58	52	47	47	47	144	103	696	619	570
12	249	78	54	48	47	50	56	146	100	704	633	672
13	249	78	49	43	45	54	151	137	98	720	656	680
14	249	78	47	38	45	50	188	140	100	712	672	619
15	244	78	48	*35	48	48	168	146	106	728	704	564
16	244	76	49	35	46	48	144	168	93	744	712	518
17	249	78	47	39	45	49	67	168	103	696	696	401
18	249	76	45	40	47	45	76	137	98	688	696	262
19	249	76	45	37	49	45	95	118	95	612	163	240
20	249	78	45	40	48	45	115	118	93	648	594	151
21	249	72	47	41	46	47	121	130	93	736	648	124
22	249	72	48	39	48	49	112	121	90	776	598	134
23	249	78	49	37	49	50	109	109	83	752	605	162
24	254	83	49	42	48	43	112	121	81	720	598	144
25	310	74	46	45	48	49	103	127	78	720	591	137
26	310	74	46	46	49	52	106	137	72	752	505	134
27	305	81	43	49	48	52	106	168	69	752	362	124
28	300	72	39	46	48	50	88	165	65	720	244	121
29	315	74	41	46	48	49	61	172	61	688	335	124
30	285	74	44	47	-	49	76	172	63	688	524	127
31	93	-	50	46	-	52	-	190	-	684	584	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						8,568	752	93	276	16,990		
November.....						2,326	86	72	77.5	4,610		
December.....						1,620	74	39	52.3	3,210		
Calendar year 1939.....						110,659	1,160	39	303	219,500		
January.....						1,402	53	35	45.2	2,780		
February.....						1,375	52	43	47.4	2,730		
March.....						1,511	54	43	46.7	3,000		
April.....						2,608	168	47	86.9	5,170		
May.....						3,993	190	63	129	7,920		
June.....						3,265	196	61	109	6,480		
July.....						18,520	776	59	597	36,730		
August.....						18,353	728	163	592	36,400		
September.....						11,686	680	121	390	23,180		
Water year 1939-40.....						75,227	776	35	206	149,200		

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Dec. 13-18, Dec. 21 to Mar. 9, Mar. 14-16.

Gunnison River at Iola, Colo.

Location.- Water-stage recorder, lat. 38°29', long. 107°06', in NW¼ sec. 28, T. 49 N., R. 2 W., 1,000 feet upstream from highway bridge and 3,000 feet northeast of Iola.

Drainage area.- 2,490 square miles.

Records available.- October 1899 to November 1903, April 1938 to September 1940.

Extremes.- Maximum discharge during year, 1,650 second-feet May 17 (gage height, 2.15 feet); minimum daily, 160 second-feet Mar. 7.

1899-1903, 1938-40: Maximum discharge observed, 6,130 second-feet June 18, 1903 (gage height, 6.00 feet, site and datum then in use); minimum daily discharge (prior to construction of Taylor Park Reservoir), 221 second-feet at times in period July to October 1902; minimum daily discharge, 130 second-feet Feb. 19, 1939.

Remarks.- Records good except those for period of ice effect, which are fair. Flow partly regulated since September 1937 by Taylor Park Reservoir on Taylor River (capacity, 106,000 acre-feet). Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	500	312	306	220	205	180	466	466	1,490	282	767	650
2	490	300	288	230	205	180	458	434	1,460	276	833	620
3	712	300	282	240	190	185	402	466	1,440	255	833	610
4	570	294	270	250	175	185	354	650	1,290	235	811	610
5	402	294	276	250	170	190	362	778	1,200	330	800	570
6	394	306	288	240	170	180	386	680	1,100	510	877	530
7	450	306	300	230	180	160	378	745	970	600	970	520
8	442	300	288	230	185	*166	354	745	888	620	910	520
9	434	306	282	240	185	170	338	778	822	640	877	520
10	434	312	270	250	*182	170	338	1,050	734	650	888	490
11	426	294	265	250	180	170	312	1,310	660	712	866	490
12	418	300	270	*223	180	180	294	1,430	660	723	866	590
13	418	312	245	210	175	195	346	1,410	690	745	866	670
14	426	318	245	200	180	180	428	1,290	789	734	866	660
15	426	312	250	195	185	180	510	1,210	844	734	899	640
16	426	300	260	205	185	200	560	1,320	811	811	922	580
17	426	300	260	210	180	220	458	1,560	811	811	877	550
18	426	318	250	220	170	240	450	1,410	800	822	866	378
19	426	330	240	205	180	240	520	1,160	778	712	550	402
20	426	330	235	215	185	250	660	1,110	745	701	620	338
21	434	330	240	220	185	270	833	1,280	712	723	844	282
22	434	324	250	210	170	320	899	1,260	712	811	789	294
23	434	318	260	200	170	380	866	1,080	680	789	778	306
24	434	312	265	200	180	450	922	1,070	600	766	789	255
25	458	312	260	205	180	450	855	1,140	520	734	811	245
26	474	300	250	210	180	482	767	1,200	474	767	745	240
27	490	312	230	220	185	530	789	1,280	434	822	640	235
28	482	306	215	220	185	510	701	1,260	362	822	474	230
29	482	294	210	200	185	450	630	1,280	300	778	474	225
30	474	288	210	195	-	410	550	1,290	288	778	640	225
31	370	-	220	195	-	434	-	1,390	-	811	660	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						14,038	712	370	453	27,840		
November.....						9,240	330	288	308	18,330		
December.....						7,980	306	210	257	15,830		
Calendar year 1939.....						284,424	3,210	130	779	564,200		
January.....						6,788	250	195	219	13,460		
February.....						5,267	205	170	182	10,450		
March.....						8,507	300	160	274	16,870		
April.....						16,184	922	294	539	32,100		
May.....						33,532	1,560	434	1,082	66,510		
June.....						24,064	1,490	288	802	47,730		
July.....						20,494	822	235	661	40,650		
August.....						24,408	970	474	787	48,410		
September.....						13,475	670	225	449	26,730		
Water year 1939-40.....						183,977	1,560	160	503	364,900		

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Dec. 15 to Mar. 24.

Gunnison River near Grand Junction, Colo.

Location.- Water-stage recorder, lat. $33^{\circ}02'$, long. $108^{\circ}34'$, in NW $\frac{1}{4}$ sec. 35, T. 1 S., R. 1 W., Ute meridian, half a mile downstream from point of diversion of Redlands power canal and 2 miles upstream from mouth and Grand Junction.

Drainage area.- 8,020 square miles.

Records available.- October 1894 to December 1895 and May 1897 to September 1899 (at site near mouth), April 1917 to September 1928, and January 1934 to September 1940 (at present site) in reports of Geological Survey. April 1917 to September 1930 and January 1934 to September 1940 in reports of State engineer.

Average discharge (river and power canal).- 20 years (1917-30, 1933-40), 2,968 second-feet.

Extremes.- Combined flow (river and power canal): Maximum discharge, 9,020 second-feet May 13; minimum daily, 306 second-feet Aug. 18.
1917-30, 1933-40: Maximum discharge, 35,700 second-feet May 23, 1920 (gage height, 14.95 feet), from rating curve extended above 21,400 second-feet; minimum daily, 106 second-feet July 20, 1934.

Remarks.- Records excellent. Diversions above station for irrigation. Combined flow of river and Redlands power canal minus about 40 second-feet diverted during irrigation season represents entire flow that enters Colorado River from Gunnison River Basin. Discharge tables include flow of power canal.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	953	917	992	852	870	726	1,200	2,870	3,470	761	507	590
2	925	985	928	914	913	873	1,410	2,510	3,180	897	437	614
3	911	1,060	907	906	944	837	1,370	2,680	3,260	646	429	622
4	1,030	1,040	928	894	913	822	1,190	3,580	3,590	570	384	582
5	1,070	1,020	907	896	936	790	1,080	5,310	4,170	543	362	500
6	1,150	999	902	877	962	782	968	5,680	4,650	511	377	472
7	867	1,010	897	858	747	819	1,090	5,550	4,270	444	352	441
8	800	1,020	871	824	759	798	1,100	5,710	3,640	417	369	456
9	825	1,000	886	760	741	767	968	5,820	3,590	439	377	448
10	882	1,070	909	776	741	775	860	6,470	3,250	392	421	441
11	890	1,080	948	814	741	840	795	7,590	2,780	368	369	418
12	895	1,020	913	862	729	874	731	8,180	2,740	390	355	411
13	880	991	905	891	705	824	584	8,560	3,010	376	334	542
14	858	1,020	864	803	677	737	511	8,530	3,430	376	327	466
15	835	1,030	745	800	698	724	708	7,640	3,290	383	313	669
16	814	1,010	700	738	719	730	1,540	7,180	3,750	398	320	741
17	795	981	757	703	698	756	1,810	7,220	3,110	555	320	756
18	772	930	822	655	677	823	1,450	8,150	3,040	522	306	818
19	745	907	839	*602	677	854	1,240	6,680	2,770	578	341	1,040
20	740	925	774	665	691	868	1,730	5,510	2,610	578	525	1,040
21	731	918	705	695	677	889	3,160	4,970	2,240	530	436	1,100
22	716	955	709	700	677	954	4,250	5,180	2,030	482	588	1,120
23	694	988	704	680	698	1,010	4,310	4,770	1,940	436	474	1,140
24	682	974	756	696	740	1,130	4,360	4,500	1,790	420	629	1,190
25	660	1,000	767	740	772	1,310	4,760	4,560	1,590	458	835	1,230
26	678	1,010	784	790	796	1,470	4,570	4,300	1,290	437	944	1,200
27	815	1,040	740	780	1,040	1,630	4,800	3,990	1,090	414	1,100	1,180
28	837	1,080	825	830	900	1,900	4,860	3,960	945	369	1,050	1,110
29	873	1,100	800	810	828	1,840	3,980	3,870	811	407	886	1,500
30	858	1,050	661	790	-	1,450	3,330	3,870	718	611	757	1,840
31	852	-	737	780	-	1,350	-	3,870	-	555	657	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	26,001	1,150	660	839	51,570
November.....	30,130	1,100	907	1,004	59,760
December.....	25,182	992	600	812	49,950
Calendar year 1939.....	678,081	7,830	307	1,858	1,345,000
January.....	24,381	914	502	786	48,360
February.....	22,666	1,040	677	792	44,960
March.....	30,952	1,900	724	988	61,590
April.....	64,705	4,850	511	2,157	128,500
May.....	169,260	8,560	2,510	5,460	335,700
June.....	81,942	4,650	718	2,731	162,500
July.....	15,063	761	368	486	29,880
August.....	15,891	1,100	306	513	31,520
September.....	24,677	1,840	411	823	48,950
Water year 1939-40.....	530,850	8,560	306	1,450	1,053,000

*Winter discharge measurement of river made on this day.

Notes.- Stage-discharge relation affected by ice on river Dec. 27-29, Jan. 18-31; on canal, Jan. 21-23.

East River at Almont, Colo.

Location.- Water-stage recorder, lat. $38^{\circ}40'$, long. $106^{\circ}51'$, in sec. 22, T. 51 N., R. 1 E., at Almont, 400 feet upstream from mouth. Datum of gage is 8,009.51 feet above mean sea level (general adjustment of 1912).

Drainage area.- 295 square miles.

Records available.- April to October 1905, July 1910 to April 1922, October 1934 to September 1940.

Average discharge.- 13 years (1910-13, 1916-20, 1934-40), 365 second-feet.

Extremes.- Maximum discharge during year, 1,220 second-feet May 11 (gage height, 3.56 feet); minimum daily, 20 second-feet Jan. 15, 16.

1905, 1910-22, 1934-40: Maximum discharge, 6,500 second-feet June 15, 1921 (gage height, 6.6 feet, site and datum then in use), from rating curve extended above 3,000 second-feet; minimum, 19 second-feet Aug. 13, 1913.

Remarks.- Records excellent except those for periods of ice effect, which are fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	108	92	69	34	24	46	75	248	1,020	280	79	84
2	92	90	67	34	25	45	73	255	975	224	79	78
3	92	94	66	34	24	45	69	350	940	208	78	78
4	94	90	65	33	24	46	65	560	645	181	78	76
5	98	90	65	33	23	48	70	645	786	172	78	73
6	100	98	60	32	22	46	70	580	732	155	79	72
7	102	90	60	30	22	43	75	708	640	150	100	70
8	102	87	57	28	23	46	75	714	630	143	143	68
9	102	89	56	29	23	49	78	834	540	126	138	58
10	102	79	55	29	*23	46	73	1,010	460	119	124	32
11	102	78	52	29	24	45	65	1,090	450	119	129	24
12	104	78	50	28	25	40	62	1,110	500	112	131	25
13	102	76	49	24	23	45	72	1,080	550	110	114	34
14	98	75	47	22	22	44	89	926	615	110	112	73
15	98	73	48	*20	26	45	141	905	615	108	122	72
16	98	72	49	20	29	45	155	996	550	102	119	72
17	98	68	47	21	27	48	131	1,130	570	100	114	76
18	98	69	45	22	27	43	150	884	550	94	106	86
19	98	70	44	21	31	44	228	774	505	100	104	141
20	98	66	43	21	34	43	355	798	495	98	110	131
21	96	65	43	21	32	48	470	792	495	94	106	119
22	96	66	44	22	31	50	510	690	505	92	104	148
23	90	69	44	22	31	52	505	675	455	94	106	117
24	81	71	45	22	37	57	560	732	415	92	117	78
25	79	72	41	23	33	62	495	816	365	90	114	78
26	82	73	37	23	35	72	495	864	336	89	129	76
27	89	75	33	23	43	73	575	884	300	90	136	69
28	86	70	30	22	44	66	500	891	276	89	122	70
29	89	68	31	22	45	65	415	926	280	85	114	76
30	86	66	32	23	-	65	332	898	256	82	106	86
31	89	-	33	23	-	73	-	996	-	79	100	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	2,949	108	79	95.1	5,850
November.....	2,319	98	65	77.3	4,600
December.....	1,507	69	30	48.6	2,990
Calendar year 1939.....	90,437	1,450	30	248	179,400
January.....	790	34	20	25.5	1,570
February.....	832	45	22	28.7	1,650
March.....	1,685	73	40	51.1	3,140
April.....	7,028	575	62	234	13,940
May.....	24,762	1,130	248	799	49,110
June.....	16,632	1,020	256	554	32,990
July.....	3,768	260	79	122	7,470
August.....	3,391	143	78	109	6,730
September.....	2,340	148	24	78.0	4,640
Water year 1939-40.....	67,903	1,130	20	186	134,700

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 17-24, Dec. 12 to Feb. 29.

Tomichi Creek at Sargents, Colo.

Location.— Water-stage recorder, lat. 38°24', long. 106°25', in SW¹/₄ sec. 21, T. 48 N., R. 5 E., half a mile downstream from Marshall Creek and three-quarters of a mile south of Sargents.

Drainage area.— 155 square miles.

Records available.— May 1917 to September 1922, April 1938 to September 1940.

Extremes.— Maximum discharge during year, 167 second-feet May 21 (gage height, 1.42 feet); minimum daily, 11 second-feet Aug. 5.
1917-22, 1938-40: Maximum discharge, 792 second-feet June 9, 1921 (gage height, 4.05 feet, site and datum then in use), from rating curve extended above 600 second-feet; minimum discharge recorded, 6 second-feet Nov. 16, 1920.

Remarks.— Records good except those for period of ice effect, which are fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	27	32	21	18	19	46	52	87	27	15	14
2	19	26	34	23	20	18	49	61	83	27	14	14
3	18	25	34	23	20	18	51	70	79	24	13	15
4	18	27	33	22	19	18	52	88	76	24	12	17
5	18	28	33	20	17	17	47	96	76	27	11	15
6	18	31	*32	21	16	18	43	99	72	27	14	14
7	19	27	31	21	17	17	35	112	58	23	22	15
8	19	31	30	20	16	*17	35	114	52	22	20	15
9	19	29	29	19	*16	19	34	121	51	21	16	15
10	19	29	28	18	16	21	32	128	43	18	17	16
11	19	27	28	19	17	22	32	138	42	15	17	17
12	19	31	28	*19	16	21	32	140	42	17	15	16
13	19	32	28	18	15	20	40	124	42	17	14	17
14	19	28	27	18	15	20	51	114	40	18	13	16
15	18	26	27	17	16	21	52	119	40	18	13	15
16	19	25	27	17	15	23	47	126	45	22	15	16
17	22	25	27	18	14	24	38	138	45	21	14	20
18	24	25	26	18	14	24	42	131	38	18	13	21
19	25	25	25	19	16	24	54	110	34	18	15	21
20	24	26	26	19	15	24	65	103	47	17	20	18
21	24	26	25	17	14	26	72	138	32	16	22	19
22	24	27	25	17	15	29	67	119	31	15	21	23
23	24	28	25	18	16	31	61	101	28	15	21	21
24	23	30	26	18	17	33	65	94	25	15	22	22
25	23	29	26	18	16	35	56	94	21	18	23	22
26	25	30	24	19	16	37	61	96	20	19	25	21
27	24	32	22	20	17	41	65	96	21	20	23	20
28	24	32	21	18	16	40	63	92	21	20	21	20
29	27	30	20	16	19	39	61	92	20	16	21	21
30	29	29	20	16	-	39	60	90	23	15	18	22
31	29	-	20	17	-	43	-	88	-	15	15	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						671	29	18	21.6	1,330		
November.....						843	32	25	28.1	1,670		
December.....						839	34	20	27.1	1,660		
Calendar year 1939.....						19,468	263	16	53.3	38,610		
January.....						584	23	16	18.8	1,160		
February.....						476	20	14	16.4	944		
March.....						798	43	17	25.7	1,580		
April.....						1,508	72	32	50.3	2,990		
May.....						3,286	140	52	106	6,520		
June.....						1,324	87	20	44.1	2,630		
July.....						605	27	15	19.5	1,200		
August.....						535	25	11	17.3	1,060		
September.....						537	23	14	17.9	1,070		
Water year 1939-40.....						12,006	140	11	32.8	23,810		

*Winter discharge measurement made on this day.

Note.— Stage-discharge relation affected by ice Nov. 16 to Apr. 3.

Tomichi Creek at Gunnison, Colo.

Location.- Water-stage recorder, lat. 38°32', long. 106°56', in sec. 11, T. 49 N., R. 1 W., half a mile upstream from mouth and 1 mile south of Gunnison.

Drainage area.- 1,020 square miles.

Records available.- November, December 1910 (gage heights only, datum then in use), April 1938 to September 1940.

Extremes.- Maximum discharge during year, 326 second-feet Mar. 27 (gage height, 1.02 feet); minimum daily, 26 second-feet Sept. 16, 17, 19.

1938-40: Maximum discharge, 1,530 second-feet Mar. 24, 1939 (gage height, 2.93 feet), from rating curve extended above 1,000 second-feet; minimum daily, that of Sept. 16, 17, 19, 1940.

Remarks.- Records fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	50	87	83	56	68	68	237	103	94	44	62	49
2	47	87	83	59	76	68	224	94	94	46	61	47
3	46	91	83	59	76	72	183	87	94	44	61	46
4	45	94	85	65	72	72	158	78	89	46	58	46
5	46	89	89	65	70	73	158	59	83	46	58	43
6	45	98	89	65	68	73	164	55	83	46	62	41
7	45	112	92	64	67	72	155	44	82	43	75	40
8	46	103	94	58	68	72	140	31	72	44	80	38
9	46	101	96	61	70	76	138	30	73	46	82	38
10	51	101	91	61	68	78	135	34	72	47	78	38
11	51	96	91	62	68	80	126	48	68	46	76	36
12	48	101	92	64	68	82	116	59	64	43	72	31
13	48	109	76	62	70	78	118	75	59	46	72	30
14	52	103	68	60	68	80	132	83	59	46	70	30
15	56	98	73	60	67	80	158	92	59	49	67	28
16	59	89	78	58	67	78	170	109	59	51	67	26
17	57	80	87	57	70	87	161	116	58	55	64	26
18	57	87	89	60	70	91	143	152	61	56	62	27
19	59	83	80	65	70	98	138	132	67	54	67	26
20	60	80	72	64	68	109	132	111	68	49	70	27
21	65	83	64	54	68	114	135	149	68	48	75	28
22	65	83	62	56	67	138	140	203	68	51	67	29
23	63	87	64	58	67	158	138	135	61	52	64	30
24	65	87	62	61	67	175	135	135	55	52	65	32
25	65	89	62	64	67	193	132	111	56	56	73	37
26	73	89	62	64	67	230	129	98	58	55	78	38
27	82	96	56	67	65	276	118	103	58	56	80	41
28	83	96	52	64	65	269	114	89	51	61	78	41
29	76	87	52	58	68	227	107	85	47	64	75	43
30	76	83	55	61	-	213	103	89	47	70	65	46
31	80	-	58	64	-	220	-	87	-	70	56	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	1,814	89	45	58.5	3,600
November.....	2,769	112	80	92.3	5,490
December.....	2,340	96	52	75.5	4,640
Calendar year 1939.....	57,208	1,080	39	157	113,500
January.....	1,896	67	54	61.2	3,760
February.....	1,990	76	65	68.6	3,960
March.....	3,797	276	68	122	7,530
April.....	4,337	237	103	145	8,600
May.....	2,924	203	30	94.3	5,800
June.....	2,027	94	27	67.6	4,020
July.....	1,581	70	43	51.0	3,140
August.....	2,140	82	56	69.0	4,240
September.....	1,078	49	26	35.9	2,140
Water year 1939-40.....	28,693	276	26	78.4	56,910

Note.- Stage-discharge relation affected by ice Dec. 27-30, Jan. 13 to Feb. 2.

Quartz Creek near Ohio, Colo.

Location.- Water-stage recorder, lat. $38^{\circ}34'$, long. $106^{\circ}38'$, in $SW\frac{1}{4}$ sec. 27, T. 50 N., R. 3 E., half a mile downstream from Willow Creek and 1 mile southwest of Ohio.

Drainage area.- 101 square miles.

Records available.- April 1938 to September 1940.

Extremes.- Maximum discharge during year, 149 second-feet May 16 (gage height, 1.54 feet); minimum daily, 10 second-feet Feb. 6, Sept. 16, 17.
1938-40: Maximum discharge, 572 second-feet May 30, 1938 (gage height, 2.71 feet); minimum daily, that of Feb. 6, Sept. 16, 17, 1940.

Remarks.- Records good except those for periods of ice effect, which are fair. Small diversions above station for irrigation. Slight regulation by power plant 3 miles above station.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	22	17	18	12	22	27	32	110	27	15	17
2	20	22	16	19	13	21	27	37	104	24	17	16
3	19	20	16	19	13	20	26	45	96	22	17	15
4	18	20	16	18	13	22	25	53	92	19	18	16
5	17	20	17	18	11	21	27	57	90	22	20	15
6	16	22	*17	17	10	20	25	62	79	22	20	15
7	16	21	17	16	11	24	24	77	72	20	24	14
8	16	21	17	16	11	25	24	79	69	20	24	12
9	17	23	18	17	*11	22	24	83	63	18	24	19
10	16	22	18	18	11	19	22	100	57	18	25	16
11	18	22	19	19	12	22	22	110	55	18	23	13
12	19	24	18	*19	11	23	23	100	53	18	24	12
13	20	27	16	15	11	22	26	90	50	16	19	14
14	20	23	17	13	11	21	29	100	50	16	18	13
15	21	20	17	13	12	21	36	110	50	20	18	12
16	22	18	18	13	13	21	32	130	49	24	18	10
17	21	17	17	13	12	22	28	132	48	26	18	10
18	20	17	17	14	12	22	32	104	48	25	19	12
19	20	17	16	12	13	22	39	84	46	21	20	18
20	19	19	17	12	15	22	43	84	47	17	20	20
21	20	19	17	13	15	22	46	86	42	18	21	22
22	19	19	17	12	15	23	48	72	37	18	22	28
23	19	20	17	12	15	23	48	63	36	21	23	36
24	19	20	18	12	17	24	50	79	32	21	24	42
25	19	19	17	12	17	24	44	81	31	18	22	36
26	21	19	16	12	17	23	42	84	29	18	22	30
27	20	20	15	13	20	22	42	92	30	19	22	30
28	18	18	14	13	21	22	39	92	24	20	21	30
29	20	17	14	12	22	21	36	100	24	19	20	32
30	20	16	15	12	-	22	34	104	25	17	18	36
31	21	-	16	11	-	24	-	115	-	17	17	-
Month				Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet			
October.....				591		22	16	19.1	1,170			
November.....				604		27	16	20.1	1,200			
December.....				517		19	14	16.7	1,030			
Calendar year				-		-	-	-	-			
January.....				453		19	11	14.6	899			
February.....				397		22	10	13.7	787			
March.....				684		25	19	22.1	1,360			
April.....				990		50	22	33.0	1,960			
May.....				2,637		152	32	85.1	5,250			
June.....				1,638		110	24	54.6	3,250			
July.....				619		27	16	20.0	1,250			
August.....				633		25	15	20.4	1,260			
September.....				611		42	10	20.4	1,210			
Water year 1939-40.....				10,374		132	10	28.3	20,590			

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 15 to Feb. 29, Mar. 13-24.

TRIBUTARIES ABOVE GREEN RIVER

Cebolla Creek at Powderhorn, Colo.

Location.— Water-stage recorder, lat. $38^{\circ}17'30''$, long. $107^{\circ}07'00''$, in SE $\frac{1}{4}$ sec. 29, T. 47 N., R. 2 W., 250 feet downstream from Powderhorn Creek and half a mile north of Powderhorn.

Drainage area.— 334 square miles.

Records available.— April 1938 to September 1940.

Extremes.— Maximum discharge during year, 229 second-feet May 12 (gage height, 1.22 feet); minimum daily, 22 second-feet July 14.

1938-40: Maximum discharge, 1,060 second-feet May 29, 1938 (gage height, 2.40 feet), from rating curve extended above 700 second-feet; minimum daily, that of July 14, 1940.

Remarks.— Records good except those for periods of ice effect or no gage-height record, which are fair. Diversions above station for irrigation.

Rating tables, water year 1939-40, except period of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 26 to Nov. 13, Sept. 21-30)

Oct. 1 to Mar. 8

Mar. 9 to Sept. 30

0.5	32	0.3	22	0.7	66
.6	42	.4	26	.8	65
.7	60	.5	38	.9	114
		.6	50	1.1	180

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	46	55	51	42	39	33	42	61	96	40	45	39
2	44	47	52	42	38	32	40	66	96	37	45	38
3	42	44	57	42	36	32	43	70	86	30	39	40
4	39	41	54	43	35	32	45	84	79	27	38	34
5	40	42	54	43	34	32	49	84	73	26	34	34
6	41	51	54	42	34	32	49	86	68	27	37	35
7	41	40	*55	38	34	31	49	88	66	26	42	36
8	42	40	55	36	*35	31	45	79	61	26	34	37
9	44	49	55	38	35	*31	45	81	61	29	35	38
10	41	37	55	39	35	31	44	109	55	29	36	37
11	42	37	51	*39	34	31	50	156	56	29	36	36
12	42	41	50	38	33	31	48	177	55	26	34	37
13	41	40	49	35	33	31	55	136	52	23	32	33
14	41	37	50	31	34	32	70	156	52	22	32	33
15	41	38	50	31	34	33	81	149	53	23	33	36
16	41	40	49	32	33	33	73	143	52	25	32	36
17	44	41	48	34	33	33	64	153	52	27	32	36
18	42	42	46	34	35	32	64	156	48	28	35	a46
19	44	40	45	35	34	31	79	120	46	28	46	a47
20	41	38	43	35	34	32	85	114	52	28	49	a45
21	40	38	45	35	32	33	104	120	53	33	46	44
22	41	40	47	34	32	35	88	120	53	31	44	43
23	44	43	47	34	33	36	84	109	46	36	44	44
24	42	44	48	35	32	38	104	91	44	38	52	46
25	44	45	47	36	31	39	96	88	38	34	49	48
26	55	43	42	37	32	41	96	96	32	37	50	46
27	49	42	38	37	34	44	104	96	32	50	45	49
28	44	41	35	36	34	43	84	96	31	59	43	48
29	51	45	36	36	33	39	73	93	27	61	43	43
30	47	49	38	37	-	38	68	93	30	53	42	48
31	56	-	40	38	-	39	-	96	-	50	40	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	1,352	56	39	43.6	2,680
November.....	1,270	55	37	42.3	2,520
December.....	1,496	57	35	47.9	2,950
Calendar year.....	-	-	-	-	-
January.....	1,142	43	31	36.8	2,270
February.....	983	39	31	33.9	1,950
March.....	1,061	44	31	34.2	2,100
April.....	2,029	104	40	67.6	4,020
May.....	3,566	177	61	109	6,680
June.....	1,645	96	27	54.8	3,260
July.....	1,037	61	22	33.5	2,060
August.....	1,244	52	32	40.1	2,470
September.....	1,209	49	33	40.3	2,400
Water year 1939-40.....	17,824	177	22	48.7	35,360

*Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of records for Tomichi Creek at Sargents.

Note.— Stage-discharge relation affected by ice Nov. 14 to Apr. 2.

Lake Fork at Gateview, Colo.

Location.- Water-stage recorder, lat. 38°07'50", long. 107°13'25", in sec. 29, T. 47 N., R. 3 W., at old village of Gateview, a quarter of a mile upstream from Indian Creek and about 15 miles upstream from mouth. Datum of gage is 7,833.02 feet above mean sea level (unadjusted).

Drainage area.- 324 square miles.

Records available.- April 1938 to September 1940.

Extremes.- Maximum discharge during year, 1,330 second-feet June 2 (gage height, 2.91 feet); minimum daily, 31 second-feet Jan. 15, 16.
1938-40: Maximum discharge, 2,620 second-feet June 21, 1938 (gage height, 5.00 feet), from rating curve extended above 1,700 second-feet; minimum daily, that of Jan. 15, 16, 1940.

Remarks.- Records excellent except those for period of ice effect, which are fair. Diversions above station for irrigation.

Rating tables, water year 1939-40, except period of ice effect (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Mar. 29

Mar. 30 to Sept. 30

0.2	45	0.2	52	0.7	155	2.1	710
.3	60	.3	67	1.2	310	2.5	980
.5	98	.5	105	1.7	510	2.7	1,140

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	88	51	37	38	40	40	61	155	1,130	310	105	81
2	82	54	37	38	41	40	55	155	1,120	303	99	80
3	86	51	36	38	42	39	54	179	1,040	292	99	83
4	76	48	36	38	42	40	54	245	884	269	91	80
5	74	46	35	36	39	38	56	300	828	248	91	78
6	73	50	35	35	38	36	56	310	699	233	91	76
7	69	46	*34	33	39	*38	58	365	640	218	93	74
8	71	45	34	33	*39	43	56	393	635	209	91	76
9	71	51	34	35	39	42	55	449	600	203	86	72
10	71	48	33	36	39	36	55	560	514	191	83	69
11	71	48	33	*36	38	42	54	672	532	182	81	69
12	69	51	33	35	38	44	54	728	575	173	74	67
13	67	48	32	34	39	41	55	746	635	167	74	72
14	65	46	33	33	38	40	64	740	638	164	67	69
15	65	45	33	31	37	40	81	746	699	161	72	67
16	65	45	34	31	37	41	85	752	595	161	74	67
17	62	40	35	32	37	42	80	790	615	152	74	69
18	64	38	34	33	38	41	80	625	575	150	71	80
19	58	38	33	35	37	41	93	478	537	145	78	103
20	56	38	32	37	37	41	120	429	537	197	93	108
21	51	37	33	37	38	42	167	413	510	278	93	105
22	57	35	35	35	39	44	197	361	501	188	89	110
23	51	35	37	35	35	47	209	413	474	130	85	115
24	58	36	39	35	37	49	230	501	453	145	93	118
25	50	37	37	36	36	49	236	610	413	130	103	120
26	57	35	35	39	35	48	251	688	385	128	99	105
27	64	34	32	40	37	47	269	722	365	125	97	108
28	60	33	33	38	38	47	236	849	334	120	93	105
29	52	35	35	37	40	53	206	905	324	120	91	101
30	50	36	36	37	-	60	200	898	320	118	89	108
31	51	-	37	38	-	60	-	1,060	-	112	86	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	2,004	88	50	64.6	3,970
November.....	1,280	54	33	42.7	2,540
December.....	1,072	39	32	34.6	2,130
Calendar year	-	-	-	-	-
January.....	1,104	40	31	35.6	2,190
February.....	1,112	42	35	38.3	2,210
March.....	1,351	60	36	43.6	2,680
April.....	3,527	269	54	118	7,000
May.....	17,257	1,060	155	557	34,230
June.....	18,157	1,130	320	605	36,010
July.....	5,722	310	112	185	11,350
August.....	2,703	105	67	87.2	5,360
September.....	2,635	120	67	87.8	5,230
Water year 1939-40.....	57,924	1,130	31	158	114,900

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 17 to Mar. 29.

North Fork of Gunnison River near Somerset, Colo.

Location.- Water-stage recorder, lat. 38°56', long. 107°26', in sec. 10, T. 13 S., R. 90 W., 2 miles east of Somerset.

Drainage area.- 521 square miles.

Records available.- March 1934 to September 1940.

Extremes.- Maximum discharge during year, 2,790 second-feet May 12 (gage height, 4.24 feet); minimum daily, 35 second-feet Jan. 15.

1934-40: Maximum discharge, 5,360 second-feet Apr. 30, May 16, 1938, from rating curve extended above 2,800 second-feet; maximum gage height, 5.62 feet May 16, 1938; minimum daily discharge, 28 second-feet Sept. 19, 1934.

Remarks.- Records excellent except those for periods of ice effect, which are good. Divisions above station for irrigation.

Rating table, water year 1939-40, except periods of ice effect (gage height, in feet, and discharge, in second-feet)

0.7	34	1.1	76	1.9	350	2.7	900
.9	50	1.2	100	2.2	500	3.7	2,080
1.0	62	1.6	228	2.4	630	4.1	2,600

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	86	70	58	54	55	68	236	810	1,680	262	78	63
2	79	69	56	52	57	65	236	935	1,600	245	75	63
3	73	69	56	52	57	65	197	1,360	1,500	221	72	62
4	81	68	55	52	55	62	184	1,320	1,360	211	69	61
5	81	68	55	52	54	66	225	2,020	1,220	201	68	60
6	78	70	54	52	50	72	282	1,950	1,090	186	70	58
7	76	69	57	54	56	66	251	2,030	922	175	78	57
8	81	65	58	50	50	68	228	1,980	900	168	73	56
9	90	69	62	45	55	72	218	2,160	746	159	69	55
10	88	63	62	43	55	73	204	2,380	638	146	68	55
11	88	57	60	43	55	75	172	2,470	678	140	68	55
12	86	62	60	44	62	66	159	2,500	773	133	65	55
13	83	63	40	43	54	62	188	2,460	820	124	68	60
14	83	62	50	42	57	55	298	2,310	870	121	68	62
15	81	60	48	35	56	60	457	2,070	860	136	68	61
16	78	52	56	39	50	73	500	2,170	764	159	65	60
17	75	50	55	40	48	93	416	2,080	728	143	63	68
18	73	49	57	41	51	83	411	1,710	678	136	63	88
19	72	49	44	40	56	103	560	1,600	609	115	65	103
20	70	62	48	39	50	118	870	1,500	560	109	81	124
21	69	56	49	39	48	136	1,160	1,530	518	127	68	109
22	69	57	52	41	58	168	1,310	1,380	489	124	68	159
23	69	66	50	40	54	208	1,350	1,360	446	124	63	143
24	68	70	51	40	54	243	1,490	1,440	406	121	70	143
25	68	68	51	47	54	274	1,470	1,580	359	112	83	118
26	78	69	52	54	56	298	1,610	1,670	337	109	115	112
27	83	78	44	54	58	324	1,680	1,670	302	112	93	96
28	69	66	37	50	53	298	1,430	1,610	286	124	88	90
29	73	65	45	50	62	232	1,160	1,620	274	98	76	136
30	68	57	50	51	-	194	922	1,620	266	90	70	181
31	69	-	55	54	-	211	-	1,710	-	83	65	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	2,384	90	68	76.9	4,730
November.....	1,898	78	49	63.3	3,760
December.....	1,627	62	37	52.5	3,230
Calendar year 1939.....	130,229	2,430	37	357	258,300
January.....	1,428	54	35	46.1	2,830
February.....	1,573	62	48	54.2	3,120
March.....	4,049	324	55	131	8,030
April.....	19,884	1,680	159	663	39,440
May.....	55,603	2,500	810	1,794	110,300
June.....	22,679	1,680	266	756	44,980
July.....	4,514	262	83	146	8,950
August.....	2,249	115	65	72.5	4,460
September.....	2,612	181	55	87.1	5,180
Water year 1939-40.....	120,500	2,500	35	329	239,000

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Dec. 27-30, Jan. 8-26.

East Muddy Creek near Bardine, Colo.

Location.- Water-stage recorder, lat. 39°01', long. 107°22', in sec. 17, T. 12 S., R. 89 W., a quarter of a mile downstream from Spring Creek and 6½ miles upstream from Bardine.

Drainage area.- 136 square miles.

Records available.- May 1935 to September 1940.

Extremes.- Maximum discharge during year, 720 second-feet May 9 (gage height, 2.25 feet); minimum daily, 7.2 second-feet Sept. 9-12, but may have been less during period of no record.

1935-40: Maximum discharge, 1,330 second-feet Apr. 30, 1936 (gage height, 2.88 feet), from rating curve extended above 550 second-feet; minimum daily, 6 second-feet Aug. 28, 1936.

Remarks.- Records good except those for periods of ice effect or no gage-height record and those below 10 second-feet, which are fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	14	16			a12	48	173	138	27	a12	9.4
2	11	14	14			a12	46	212	135	27	a16	8.9
3	11	14	14			a12	42	323	126	23	a18	8.9
4	11	13	14			a11	40	469	111	22	a18	8.9
5	13	14	11			a12	46	530	100	20	a17	8.4
6	11	14	11			a13	50	496	94	20	a19	8.4
7	11	13	13			a12	48	496	81	20	19	7.8
8	15	13	*14			a12	46	456	76	19	16	7.8
9	16	13	14			a13	44	510	72	18	15	7.2
10	14	14	14			a13	42	496	64	15	15	7.2
11	13	14	14			a14	38	489	62	15	15	7.2
12	13	14	14			a13	36	489	62	15	14	7.2
13	13	14	14			a11	40	516	62	14	13	9.4
14	13	14	11			a10	54	492	56	13	13	11.4
15	13	14	12			a12	79	420	56	11	13	9.4
16	13	14	13			a14	108	420	52	11	13	8.9
17	13	15	13			a17	81	359	50	11	11	9.4
18	13	16	13			a15	72	298	48	13	13	20
19	11	15	10			a19	94	266	46	14	14	19
20	11	14	11			a21	150	240	42	13	14	20
21	11	14	12			a24	201	228	40	13	14	18
22	13	15	12			a29	248	201	38	11	14	22
23	11	18	12			a35	270	137	36	11	15	19
24	11	15	12			a45	232	183	31	13	19	19
25	11	16	12			a52	308	180	27	14	22	16
26	18	14	12			56	313	183	25	13	23	16
27	18	11	11			60	333	176	25	a13	19	14
28	16	13	9			54	284	167	22	a16	14	14
29	14	11	10			44	224	160	22	a14	13	22
30	15	13	11			40	190	160	25	a13	10	36
31	14	-	13			46	-	147	-	a11	9.4	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						403	18	11	13.0	799		
November.....						420	18	11	14.0	833		
December.....						381	16	9	12.3	756		
Calendar year						-	-	-	-	-		
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March.....						753	60	10	24.3	1,490		
April.....						3,807	333	36	127	7,560		
May.....						10,092	530	147	326	20,020		
June.....						1,624	138	22	60.8	3,620		
July.....						483	27	11	15.6	968		
August.....						470.4	23	9.4	15.2	933		
September.....						400.4	36	7.2	13.3	794		
Water year						-	-	-	-	-		

*Winter discharge measurement made on this day.
 a No gage-height record; discharge computed on basis of records for North Fork of Gunnison River near Somerset.

Note.- Stage-discharge relation affected by ice Dec. 8-31.

Leroux Creek near Cedaredge, Colo.

Location.- Water-stage recorder, lat. 38°55', long. 107°48', in sec. 16, T. 13 S., R. 93 W., 200 feet upstream from head gate of Overland ditch and 7.2 miles northeast of Cedaredge.

Drainage area.- 43.0 square miles.

Records available.- October 1936 to September 1940.

Extremes.- Maximum discharge during year, 825 second-feet May 9 (gage height, 4.48 feet); minimum daily, 3.6 second-feet Mar. 13, but may have been less during period of no record.

1936-40: Maximum discharge, 1,120 second-feet May 28, 1938 (gage height, 5.01 feet), from rating curve extended above 550 second-feet; minimum daily, that of Mar. 13, 1940, but may have been less during periods of no record.

Remarks.- Records excellent except those below 10 second-feet, which are good, and those for periods of no gage-height record, which are fair. No records Dec. 1 to Feb. 29. One small diversion and several small reservoirs above station for irrigation.

Rating table, water year 1939-40 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 11 to Nov. 25)

0.8	4.2	1.2	13.4	2.0	68	3.4	362
.9	5.8	1.4	21.4	2.2	94	3.6	426
1.0	7.8	1.5	26	2.4	128	3.9	546
1.1	10.2	1.7	40	2.7	190		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.4	9.2				4.2	13	84	108	31	15	12
2	6.8	9.2				4.1	11	114	79	27	19	10
3	6.4	9.7				3.9	12	164	72	25	20	9.7
4	6.6	8.5				3.8	11	269	66	23	20	10
5	6.8	8.0				4.0	14	323	62	21	19	10
6	8.0	8.3				4.4	16	386	59	21	21	9.5
7	7.0	7.0				4.0	16	377	54	21	20	9.2
8	7.2	6.6				4.1	15	346	50	20	18	9.2
9	7.6	7.6				4.4	13	464	44	23	16	8.5
10	6.6	5.0				4.6	12	521	38	23	19	6.8
11	8.5	8.0				4.6	11	437	34	23	19	6.0
12	8.0	8.5				4.2	13	409	32	24	14	5.6
13	7.6	7.2				3.6	19	484	30	23	15	8.8
14	7.0	6.8				4.0	36	460	28	22	15	8.0
15	6.2	6.8				4.7	46	419	27	21	18	8.0
16	7.0	6.4				5.4	38	416	28	20	18	7.2
17	7.0	6.2				5.8	31	300	27	21	15	9.7
18	6.8	5.5				5.3	37	260	26	21	12	52
19	7.0	5.2				7.0	61	245	25	20	12	52
20	6.6	7.4				8.6	93	212	27	19	13	34
21	6.2	7.8				11	123	190	31	17	13	27
22	5.6	7.0				12	144	172	30	16	16	32
23	5.5	6.4				14	170	172	30	17	18	30
24	6.0	6.6				16	168	164	26	17	18	30
25	7.0	6.4				19	144	160	27	17	20	21
26	7.0	6.4				20	166	156	27	17	24	21
27	7.6	6.2				19	179	140	30	16	24	19
28	7.0	7.2				16	136	124	29	21	17	17
29	8.0	8.4				13	96	117	29	17	13	36
30	6.0	7.5				12	80	112	32	16	11	49
31	7.8	-				13	-	102	-	13	12	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	215.8	8.5	5.5	6.96	428
November.....	217.0	9.7	5.0	7.23	430
December.....	-	-	-	-	-
Calendar year	-	-	-	-	-
January.....	-	-	-	-	-
February.....	-	-	-	-	-
March.....	259.7	20	3.6	8.38	515
April.....	1,924	179	11	64.1	3,820
May.....	8,299	521	84	268	16,460
June.....	1,207	108	25	40.2	2,390
July.....	633	31	13	20.4	1,260
August.....	524	24	11	16.9	1,040
September.....	569.2	52	5.6	19.0	1,130
Water year	-	-	-	-	-

Note.- No gage-height record Nov. 26-30, Mar. 1-25; discharge computed on basis of weather records and records for station on North Fork of Gunnison near Somerset.

Surface Creek above Cedaredge, Colo.

Location.— Water-stage recorder, lat. 38°59', long. 107°51', in NW¼ sec. 12, T. 12 S., R. 94 W., 1 mile downstream from Caesar Creek and 8½ miles northeast of Cedaredge.

Drainage area.— 28.5 square miles.

Records available.— June 1939 to September 1940.

Extremes.— Maximum discharge during year, 293 second-feet May 6 (gage height, 2.66 feet); minimum, 6.1 second-feet Dec. 5 (discharge measurement), probably lower during period of no record.

1939-40: Maximum discharge, that of May 6, 1940; minimum daily, 5.8 second-feet Sept. 23, 1939, but probably lower during periods of no record.

Remarks.— Records excellent except those for periods of no gage-height record and those Apr. 12 to May 5, which are fair. No records Nov. 1 to Mar. 31. Discharge regulated by many small reservoirs.

Rating table for period May 5 to Sept. 30, 1940 (gage height, in feet, and discharge, in second-feet) (Shifting-control method used Sept. 30)

0.8	7.5	1.1	22	1.7	76	2.1	138
.9	11	1.2	29	1.8	89	2.2	161
1.0	16	1.6	65	2.0	119	2.4	215

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14						7.0	54	88	59	28	34
2	14						6.5	75	98	56	37	33
3	17						6.5	109	96	54	37	21
4	17						7.0	169	102	57	23	21
5	15						8.2	185	106	57	21	18
6	16						9.5	196	100	60	38	20
7	14						13	164	96	61	42	18
8	14						11	159	98	60	36	23
9	13						8.2	185	96	59	34	23
10	12						7.0	188	67	62	24	19
11	11						6.5	174	62	63	21	17
12	11						9.4	164	69	52	27	17
13	12						12	174	68	56	28	22
14	10						24	164	65	51	41	20
15	9.8						34	145	61	52	46	18
16	8.6						29	136	56	59	52	16
17	7.4						23	116	55	59	48	22
18	8.5						27	113	66	56	39	59
19	11						46	98	59	55	37	43
20	9.0						71	96	53	42	31	24
21	7.6						103	113	52	37	23	20
22	9.0						116	109	59	43	23	28
23	10						116	109	54	42	23	35
24	13						125	111	60	34	27	33
25	13						111	109	60	34	29	28
26	14						131	119	62	34	34	22
27	15						111	118	65	38	29	20
28	15						69	116	74	40	16	20
29	13						51	108	75	34	9.6	42
30	11						49	106	62	42	23	47
31	8.5						-	98	-	43	32	-
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....							371.4	17	7.4	12.0	737	
November.....							-	-	-	-	-	
December.....							-	-	-	-	-	
Calendar year							-	-	-	-	-	
January.....							-	-	-	-	-	
February.....							-	-	-	-	-	
March.....							-	-	-	-	-	
April.....							1,347.8	131	6.5	44.9	2,670	
May.....							4,061	196	54	132	8,090	
June.....							2,224	106	52	74.1	4,410	
July.....							1,551	63	34	50.0	3,080	
August.....							957.6	52	9.6	30.9	1,900	
September.....							783	59	16	26.1	1,550	
Water year							-	-	-	-	-	

Note.— No gage-height record Oct. 16-31, Apr. 1-11; discharge computed on basis of records for station at Cedaredge.

Surface Creek at Cedaredge, Colo.

Location.- Water-stage recorder and concrete control, lat. 38°52', long. 107°55', in Sec. 20, T. 13 S., R. 94 W., at Cedaredge.

Drainage area.- 43 square miles.

Records available.- May 1917 to September 1927 and October 1933 to September 1940 in reports of Geological Survey. May 1917 to September 1940 in reports of State engineer.

Average discharge.- 23 years, 30.8 second-feet.

Extremes.- Maximum discharge during year, 224 second-feet Apr. 26 (gage height, 1.34 feet); minimum daily, 0.2 second-foot Dec. 30; but may have been lower during period of ice effect.
1917-40: Maximum discharge, 715 second-feet May 24, 1920 (gage height, 1.95 feet); no flow Sept. 25, 1939, and practically no flow at times during some winters.

Remarks.- Records good except those for period of ice effect, which are fair. Flow regulated by many reservoirs. Water is diverted into Surface Creek Basin from adjacent streams. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.0	5.1	1.1			0.9	7.2	72	54	25	10	13
2	9.0	5.5	1.1			.9	6.6	86	61	21	11	15
3	8.4	5.5	1.1			.8	6.6	91	59	20	9.0	12
4	6.6	5.5	1.1			.9	7.2	118	57	18	9.0	10
5	4.6	4.6	1.1			1.0	8.4	118	61	16	9.6	9.6
6	4.2	4.2	1.1		(*)	.8	9.6	115	54	21	11	5.5
7	3.7	2.3	1.0			1.0	13	105	48	26	9.0	3.2
8	4.6	2.3	1.0			1.0	11	95	46	28	11	10
9	6.0	2.3	.8			.8	8.4	115	46	27	12	11
10	6.6	2.3	.8			.8	7.2	102	38	21	10	11
11	7.8	2.8	.7			.8	6.0	89	36	18	9.0	10
12	7.8	2.8	.8			.8	7.2	77	35	19	9.6	7.8
13	7.8	3.2	1.1			1.4	11	86	30	24	9.6	10
14	7.2	3.7	2.3			1.3	26	77	29	25	8.4	6.0
15	5.1	4.2	1.4			1.1	36	54	28	25	7.8	2.8
16	4.6	3.2	1.4	0.4	0.35	.8	28	57	23	28	15	1.9
17	3.7	1.9	1.3			.7	22	53	20	29	14	8.4
18	5.1	3.2	1.1			.7	27	56	23	24	9.6	37
19	6.6	3.7	1.0			.8	51	57	18	21	9.0	23
20	5.1	4.2	.9			1.4	81	56	18	10	11	15
21	3.2	3.7	.8			2.3	105	69	21	5.5	7.8	14
22	5.5	3.2	.8			4.6	112	67	23	10	6.6	16
23	7.2	1.9	.7			7.2	102	64	21	9.6	6.6	17
24	8.4	1.9	.7			9.6	112	62	17	6.0	12	21
25	7.8	2.3	.8			16	91	59	16	9.0	16	18
26	9.0	1.9	.7			15	128	67	30	10	17	16
27	8.4	1.4	.6			11	100	69	34	12	16	13
28	6.6	1.1	.4			9.0	79	65	28	20	10	13
29	7.2	1.0	.3			7.8	65	64	30	16	4.2	27
30	6.0	1.0	.2			5.1	64	62	26	12	3.2	37
31	4.6	-	.3	-	-	5.5	-	59	-	11	6.6	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						197.4	9.0	3.2	6.37	392		
November.....						91.9	5.5	1.0	3.06	182		
December.....						28.5	2.3	.2	.92	57		
Calendar year 1939.....						6,111.6	91	0	16.7	12,130		
January.....						12.4	-	-	.40	25		
February.....						10.2	-	-	.35	20		
March.....						111.8	16	.7	3.61	222		
April.....						1,337.4	128	6.0	44.6	2,650		
May.....						2,386	118	53	77.0	4,730		
June.....						1,030	61	16	34.3	2,040		
July.....						566.1	29	5.5	18.3	1,120		
August.....						310.6	17	3.2	10.0	616		
September.....						414.2	37	1.9	13.8	822		
Water year 1939-40.....						6,496.5	128	-	17.8	12,880		

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Dec. 19 to Mar. 4.

Uncompahgre River at Colona, Colo.

Location.— Water-stage recorder, lat. 38°19'50", long. 107°46'40", in NW¼ sec. 17, T. 47 N., R. 8 W., a quarter of a mile east of Colona.

Drainage area.— 437 square miles.

Records available.— March 1935 to September 1940. April 1903 to June 1906 and April 1917 to November 1934, at site 3 miles upstream.

Extremes.— Maximum discharge during year, 1,850 second-feet June 1 (gage height, 3.08 feet); minimum daily, 40 second-feet Aug. 15, 1903-6, 1917-40; Maximum discharge, 4,080 second-feet June 13, 14, 1921; minimum, 16 second-feet Sept. 3, 1918.

Remarks.— Records good except those for periods of ice effect, which are fair. Diversions above station for irrigation.

Cooperation.— Gage heights and results of most of discharge measurements furnished by Uncompahgre Valley Water Users' Association.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	83	72	77	77	92	100	190	302	1,350	376	68	80
2	83	70	81	74	78	86	155	341	1,340	318	66	72
3	79	64	81	77	72	86	142	470	1,200	302	66	82
4	70	64	81	77	72	82	138	641	1,060	275	64	80
5	66	64	81	77	72	82	146	614	1,000	270	62	78
6	68	64	81	77	75	86	170	578	856	240	64	72
7	62	64	81	74	78	78	155	632	811	219	62	78
8	68	62	77	74	78	86	146	596	829	207	57	74
9	74	68	77	74	82	96	142	740	748	207	54	68
10	66	77	77	72	70	118	146	856	690	195	54	64
11	70	81	77	72	75	118	134	820	766	178	51	62
12	68	88	77	74	78	96	134	856	811	156	50	62
13	64	90	68	72	72	78	155	784	910	142	50	70
14	60	85	72	58	62	72	260	856	1,040	142	44	66
15	58	81	72	47	66	78	302	883	980	136	40	62
16	56	79	72	58	70	92	296	811	838	139	46	58
17	56	77	72	60	65	126	248	856	865	132	51	76
18	54	70	70	61	62	126	230	643	856	150	51	195
19	58	74	66	60	66	138	348	508	802	132	57	203
20	60	72	*68	*59	62	150	497	466	706	120	112	192
21	62	74	72	60	66	180	632	472	636	118	86	174
22	62	74	66	64	70	195	533	460	608	112	74	227
23	66	81	62	62	70	224	524	508	562	102	74	235
24	68	81	68	61	70	236	515	594	532	106	88	215
25	68	79	74	82	70	266	497	722	478	100	125	192
26	74	81	70	93	75	248	578	775	466	98	122	181
27	72	81	*52	90	78	236	551	820	418	96	116	164
28	70	81	50	88	78	224	376	950	370	90	96	167
29	74	79	58	86	92	176	302	1,020	358	94	94	207
30	72	79	64	84	-	160	278	1,120	382	82	88	290
31	70	-	72	88	-	185	-	1,240	-	74	88	-
Month						Second-foot-days		Maximum	Minimum		Mean	Run-off in acre-feet
October.....						2,081		83	54		67.1	4,130
November.....						2,256		90	62		75.2	4,470
December.....						2,216		81	50		71.5	4,400
Calendar year 1939.....						74,108		938	50		203	147,000
January.....						2,232		93	47		72.0	4,430
February.....						2,116		92	62		73.0	4,200
March.....						4,303		266	72		139	8,530
April.....						8,920		632	134		297	17,690
May.....						21,934		1,240	302		708	45,510
June.....						23,262		1,350	358		776	46,150
July.....						5,107		376	74		165	10,130
August.....						2,224		126	40		71.7	4,410
September.....						3,846		290	58		128	7,630
Water year 1939-40.....						80,503		1,350	40		220	159,700

*Winter discharge measurement made on this day.

Note.— Stage-discharge relation affected by ice Dec. 20-27, 30, 31, Jan. 17-31, Feb. 13-15, 18-22.

TRIBUTARIES ABOVE GREEN RIVER

Uncompahgre River at Delta, Colo.

Location.— Water-stage recorder, lat. $38^{\circ}45'$, long $108^{\circ}05'$, in SW $\frac{1}{4}$ sec. 13, T. 15 S., R. 95 W., at west edge of Delta, $1\frac{1}{2}$ miles upstream from mouth.

Drainage area.— 1,110 square miles.

Records available.— April 1924 to September 1931, September 1938 to September 1940. April 1903 to October 1923 at site $3\frac{1}{2}$ miles upstream.

Extremes.— Maximum discharge during year, 1,980 second-feet Sept. 30 (gage height, 4.25 feet), from rating curve extended above 1,400 second-feet; minimum daily, 65 second-feet Apr. 13.
1903-31, 1938-40: Maximum discharge, 2,880 second-feet June 29, 1927 (gage height, 5.93 feet), from rating curve extended above 1,400 second-feet; minimum daily, 7 second-feet July 10-15, 17, 21, 24-28, 1910.

Remarks.— Records excellent. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.			
1	326	244	144	132	129	129	106	193	750	240	150	218			
2	322	190	154	132	137	102	129	193	675	193	132	236			
3	310	173	134	150	137	96	163	240	595	153	120	229			
4	240	160	134	160	129	94	129	339	411	144	124	186			
5	453	140	150	173	127	94	115	443	322	132	127	160			
6	190	153	150	166	120	96	169	394	314	117	132	150			
7	268	156	147	156	124	96	200	385	268	132	137	160			
8	264	112	144	144	122	90	183	377	385	154	140	160			
9	297	120	147	147	115	90	147	356	416	127	127	160			
10	314	140	160	144	115	90	104	503	368	122	122	160			
11	318	134	150	137	112	94	84	494	347	117	122	156			
12	310	137	153	140	115	87	73	555	425	117	115	153			
13	301	140	150	132	96	76	65	585	347	120	110	173			
14	305	144	140	98	92	85	85	555	289	122	115	222			
15	301	144	140	94	102	85	183	555	650	124	110	297			
16	305	144	144	98	100	82	207	476	434	129	112	276			
17	301	150	153	104	96	88	144	615	335	153	108	256			
18	268	156	156	108	90	92	102	650	360	153	108	369			
19	246	153	129	102	96	104	115	411	318	150	127	512			
20	222	144	122	115	88	122	218	310	310	147	137	531			
21	244	160	140	132	94	94	448	430	310	153	115	535			
22	229	173	129	129	104	92	462	503	293	137	127	550			
23	229	169	129	120	104	94	347	476	260	150	204	560			
24	218	173	137	132	104	94	322	540	225	150	466	620			
25	214	166	156	153	108	100	272	600	211	150	476	580			
26	225	160	140	153	124	110	264	635	186	137	495	595			
27	248	160	124	147	137	79	301	580	180	127	535	555			
28	244	169	120	134	129	96	236	575	156	144	490	535			
29	266	190	117	127	134	77	180	522	144	180	343	570			
30	284	153	115	129	-	80	232	540	207	163	268	996			
31	289	-	137	132	-	80	-	665	-	160	204	-			
Month						Second-foot-days		Maximum		Minimum		Mean		Run-off in acre-feet	
October.....						8,555		453		190		276		16,970	
November.....						4,707		244		112		157		9,340	
December.....						4,325		160		115		140		8,580	
Calendar year 1939.....						73,982		656		87		203		146,800	
January.....						4,120		173		94		133		8,170	
February.....						3,280		137		88		113		6,510	
March.....						2,888		129		76		93.2		5,730	
April.....						5,785		462		65		193		11,470	
May.....						14,695		665		193		474		29,150	
June.....						10,491		750		144		350		20,810	
July.....						4,477		240		117		144		8,880	
August.....						6,192		535		108		200		12,280	
September.....						10,880		996		150		363		21,580	
Water year 1939-40						80,395		996		65		220		159,500	

Roubideau Creek near Delta, Colo.

Location.- Water-stage recorder, lat. $38^{\circ}42'$, long. $108^{\circ}09'$, in sec. 7, T. 51 N., R. 11 W., 600 feet upstream from Buttermilk Creek and $5\frac{1}{2}$ miles southwest of Delta.

Drainage area.- 165 square miles.

Records available.- March 1939 to September 1940.

Extremes.- Maximum discharge during year, 640 second-feet May 11 (gage height, 3.24 feet); minimum daily, 0.3 second-foot Jan. 18, 19.
1939-40: Maximum discharge, that of May 11, 1940; minimum daily, that of Jan. 18, 19, 1940.

Remarks.- Records good except those for period of ice effect, which are fair. A few small diversions above station.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	8.6	1.6	0.9	0.8	1.6	6.7	146	80	5.5	5.5	4.9
2	10	3.0	1.2	.9	.8	1.7	10	163	70	5.2	5.8	3.8
3	10	4.0	1.2	1.4	.9	1.7	7.0	213	63	5.2	5.2	3.3
4	4.6	5.8	1.2	1.4	.9	1.4	5.8	347	58	6.1	4.3	3.6
5	7.4	5.2	1.2	1.1	1.0	1.5	5.2	415	47	5.8	4.6	4.0
6	4.0	5.2	1.2	.9	1.1	1.6	7.0	404	43	5.5	4.3	4.3
7	6.1	2.2	1.4	.9	1.1	1.6	7.4	434	39	5.5	4.0	4.0
8	6.4	6.4	1.5	.8	1.1	2.5	8.6	401	36	5.5	4.3	3.6
9	8.6	8.6	1.6	.8	.7	2.0	5.8	460	36	5.2	3.6	4.3
10	8.2	2.7	1.6	.8	.7	3.8	7.8	488	35	4.9	3.6	4.3
11	5.2	2.0	1.7	.5	.8	6.7	16	508	32	5.5	4.0	4.9
12	2.5	2.9	2.5	.5	.8	11	17	488	23	5.2	4.3	5.2
13	3.3	3.1	1.8	.4	.6	11	11	464	19	4.9	4.9	4.0
14	6.4	3.6	1.6	.4	.6	9.0	20	422	16	4.8	4.9	6.1
15	3.8	3.6	1.4	.4	.8	6.4	36	354	16	5.2	4.9	7.8
16	3.3	1.7	1.2	*.4	.8	5.8	47	351	17	8.6	4.6	8.2
17	2.9	1.6	1.1	.4	.7	4.0	40	422	13	22	4.6	10
18	2.9	1.6	1.1	.3	1.0	5.8	35	368	10	9.0	5.8	10
19	3.3	1.8	1.1	.3	.9	4.0	36	300	10	7.4	5.5	8.2
20	2.7	1.6	1.1	.4	1.2	1.5	60	245	10	7.8	4.0	8.2
21	2.7	1.7	.8	.5	1.2	1.4	139	233	8.6	7.0	3.8	9.0
22	2.7	1.7	.8	.6	1.1	2.0	196	218	8.2	7.0	4.6	11
23	3.1	1.6	.7	*.6	1.2	5.3	213	196	7.8	7.4	4.6	12
24	2.5	1.6	.7	.6	1.2	3.8	270	180	7.4	6.7	4.6	18
25	3.1	1.6	.6	.7	1.4	2.5	313	163	6.1	6.1	4.0	26
26	3.1	1.6	.8	.9	2.0	2.9	358	153	6.1	6.1	4.3	22
27	5.8	1.6	1.2	.8	1.8	4.3	361	142	5.8	5.8	3.8	18
28	4.9	1.6	1.4	.8	1.8	13	257	133	5.2	7.0	3.8	19
29	7.0	1.6	1.7	.7	1.6	10	204	118	5.8	7.4	3.8	20
30	7.8	1.6	1.7	*.7	-	6.4	170	102	7.8	7.0	3.8	104
31	9.0	-	1.4	.7	-	5.5	-	90	-	6.7	3.8	-
Month				Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet			
October.....				164.3		11	2.5	5.50	326			
November.....				91.7		8.6	1.6	3.06	182			
December.....				40.0		2.5	.6	1.22	79			
Calendar year				-		-	-	-	-			
January.....				21.5		1.4	.3	.69	43			
February.....				30.6		2.0	.6	1.06	61			
March.....				139.7		13	1.4	4.61	277			
April.....				2,870.3		361	5.2	65.7	5,690			
May.....				9,121		508	90	294	18,080			
June.....				740.8		80	5.2	24.7	1,470			
July.....				209.1		22	4.9	6.75	415			
August.....				137.6		5.8	3.6	4.44	273			
September.....				371.7		104	3.3	12.4	737			
Water year 1939-40.....				13,938.3		508	.3	38.1	27,640			

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Jan. 11 to Feb. 5.

Roubideau Creek at mouth, near Delta, Colo.

Location.- Water-stage recorder, lat. 38°44', long. 108°09', in sec. 19, T. 15 S., R. 96 W., half a mile upstream from mouth and 5 miles west of Delta.

Drainage area.- 245 square miles.

Records available.- March 1939 to September 1940.

Extremes.- Maximum discharge during year, 923 second-feet May 17 (gage height, 4.18 feet), from rating curve extended above 650 second-feet; minimum daily, 17 second-feet Mar. 20.

1939-40: Maximum discharge, that of May 17, 1940; minimum daily, that of Mar. 20, 1940.

Remarks.- Records good except those for period of ice effect, which are fair. A few small diversions above station for irrigation. Increase in discharge between station near Delta and mouth is mostly return flow from irrigated lands under lower end of Ironstone canal.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	114	105	53	40	30	25	74	226	132	53	70	78
2	117	52	55	48	30	30	91	256	127	44	66	66
3	122	62	58	45	31	38	68	316	124	44	56	56
4	74	70	58	40	32	38	50	530	110	64	53	52
5	112	56	58	34	32	37	58	628	98	62	55	48
6	76	52	60	29	31	35	53	618	89	48	52	47
7	105	40	60	26	31	36	68	676	91	50	55	52
8	105	56	60	26	31	45	58	587	105	55	52	50
9	102	82	60	27	28	44	38	669	122	47	52	50
10	85	102	48	27	28	45	50	696	129	45	45	50
11	87	79	45	28	28	52	85	706	117	52	45	48
12	96	74	44	36	27	56	62	642	98	55	38	72
13	96	74	44	29	26	55	41	552	80	45	37	82
14	93	76	44	28	31	45	42	523	62	48	38	110
15	89	76	42	27	40	47	68	472	72	47	64	119
16	82	72	40	*27	37	44	89	475	70	52	55	105
17	78	68	40	24	36	41	76	578	53	82	40	117
18	82	62	40	23	34	42	55	498	48	56	55	142
19	81	62	37	23	35	32	53	418	40	52	66	124
20	110	64	38	26	31	17	96	354	47	58	55	132
21	102	64	40	26	29	30	184	344	45	70	35	140
22	93	68	40	24	30	36	271	325	44	70	52	142
23	82	64	38	*24	31	27	292	295	44	64	100	145
24	72	64	38	22	27	40	357	271	47	68	110	150
25	80	62	40	26	26	52	421	256	41	62	72	158
26	96	60	32	24	29	45	491	235	37	60	74	147
27	91	60	31	24	27	45	546	217	38	48	74	132
28	93	58	32	25	26	70	402	170	40	68	70	129
29	110	47	31	26	26	68	310	153	42	87	70	137
30	110	55	31	27	-	64	265	145	62	82	74	370
31	117	-	30	28	-	44	-	134	-	82	85	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	2,962	122	74	97.5	5,880
November.....	1,985	105	40	63.2	3,940
December.....	1,367	60	30	44.1	2,710
Calendar year	-	-	-	-	-
January.....	889	48	22	23.7	1,760
February.....	880	40	26	30.3	1,750
March.....	1,325	70	17	42.7	2,630
April.....	4,792	546	38	160	9,500
May.....	12,955	706	134	418	25,700
June.....	2,254	132	37	75.1	4,470
July.....	1,820	87	44	53.7	3,610
August.....	1,865	110	35	60.2	3,700
September.....	3,250	370	47	107	6,450
Water year 1939-40.....	36,344	706	17	97.3	72,100

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Jan. 11-23.

Kannah Creek near Whitewater, Colo.

Location.— Water-stage recorder and concrete control, lat. 38°59', long. 108°14', in sec. 34, T. 12 S., R. 97 W., a quarter of a mile downstream from intake of pipe line for Grand Junction water supply and 17 miles east of Whitewater.

Drainage area.— 55.0 square miles.

Records available.— October 1917 to September 1921 and October 1933 to September 1940 in reports of Geological Survey. October 1917 to September 1921 and August 1922 to September 1940 in reports of State engineer.

Average discharge (including flow diverted by pipe line above station).— 22 years, 40.8 second-feet.

Extremes (combined flow).— Maximum discharge during year, 700 second-feet May 13; minimum daily, 4.3 second-feet Dec. 19.

1917-21, 1922-40: Maximum discharge, 1,630 second-feet June 6, 1921 (gage height, 4.5 feet, site and datum then in use), from rating curve extended above 700 second-feet; minimum daily, that of Dec. 19, 1939.

Remarks.— Records excellent except those for periods of ice effect, which are fair. Figures of diverted flow for Grand Junction water supply (obtained from several readings made each day on Cippoletti weir) furnished by State engineer and added to monthly discharge to give total flow of stream. Records of combined flow excellent. Regulation by a few small reservoirs above station.

Rating table, water year 1939-40, except periods of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Oct. 25 to Nov. 15, Apr. 2-14)

0.3	0.5	0.7	30	1.1	140
.4	3.0	.8	52	1.4	260
.5	8.5	.9	76	2.0	530
.6	17	1.0	104		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.0	7.4	3.0	b2.8	2.8	3.0	9.4	54	66	30	6.3	4.1
2	2.5	7.4	b2.6	b5.0	2.8	2.8	6.8	57	59	30	6.3	3.0
3	2.5	7.4	b2.6	b5.0	2.8	2.5	5.8	76	59	30	4.6	2.5
4	3.0	6.3	b2.5	b5.2	2.8	2.8	5.8	111	54	26	4.1	3.6
5	3.0	5.2	b2.2	b5.3	2.5	2.5	5.8	140	50	20	5.2	3.6
6	3.6	5.2	b2.3	b5.2	b2.3	2.5	5.2	199	45	20	13	4.1
7	3.6	5.2	2.8	b5.1	2.8	b2.2	4.6	212	41	18	17	4.6
8	5.2	5.2	2.8	b2.9	b2.6	2.5	8.5	244	37	20	16	2.0
9	4.6	6.3	2.8	b2.8	b2.6	2.5	9.4	305	34	27	27	2.0
10	4.1	5.2	2.5	b2.7	2.8	2.8	4.6	341	30	27	26	1.8
11	4.1	5.2	2.5	b5.0	2.8	2.8	3.0	395	26	26	18	1.5
12	4.1	4.6	2.5	b2.8	2.8	2.2	3.6	458	25	22	14	1.2
13	4.1	5.2	b1.8	b2.7	b2.5	1.8	5.8	485	24	21	16	4.6
14	4.1	5.2	b2.5	b2.3	2.8	b1.7	14	503	22	18	14	5.2
15	4.1	4.6	b2.4	b1.5	2.8	b2.1	20	494	21	15	16	5.2
16	4.1	b4.3	b2.6	b1.9	2.8	2.8	15	494	20	21	18	4.1
17	4.1	b4.0	b2.5	b2.2	b2.4	3.0	12	413	17	27	17	3.0
18	4.1	b3.5	.8	b2.4	b2.2	3.0	15	359	16	22	14	5.8
19	3.0	b2.8	.8	b2.4	2.5	4.1	25	377	15	17	8.5	10
20	3.0	b3.2	1.8	b2.5	2.5	5.2	37	350	15	15	7.4	10
21	3.0	b3.5	1.2	b2.4	2.8	5.8	48	305	22	12	7.4	8.5
22	2.8	b3.4	2.2	b2.4	2.5	7.4	48	296	21	13	8.0	6.3
23	2.8	b3.2	2.8	b2.3	2.5	8.5	59	314	21	10	11	5.8
24	3.0	b3.0	2.2	b2.4	2.5	11	74	305	20	11	13	5.2
25	8.0	b2.8	1.5	b2.6	2.5	12	79	260	24	11	14	4.6
26	8.0	2.8	.8	b2.8	3.0	12	98	196	25	10	12	3.6
27	6.3	2.8	1.8	b5.0	3.0	11	93	160	25	10	12	4.1
28	5.2	2.8	b2.0	b2.5	3.0	8.0	66	133	37	15	7.4	6.8
29	7.4	2.8	b2.2	3.0	3.6	7.4	57	98	41	14	6.8	13
30	7.4	2.8	b2.4	3.0	-	6.8	54	82	39	10	6.8	17
31	7.4	-	b2.6	2.8	-	8.5	-	71	-	-	6.8	-

Month	Observed					Diversion* (acre-foot)	Adjusted for diversion	
	Second- foot-days	Maximum	Minimum	Mean	Run-off (acre- feet)		Run-off (acre-foot)	Mean (second- feet)
October.....	135.2	8.0	2.5	4.36	268	387	655	10.7
November.....	133.3	7.4	2.8	4.44	264	301	565	9.50
December.....	68.2	3.0	.8	2.20	135	360	496	8.05
Calendar year 1939	8,431.4	301	.8	23.1	16,720	4,870	21,590	29.8
January.....	82.9	3.3	1.5	2.67	164	320	484	7.87
February.....	78.3	3.6	2.2	2.70	155	282	437	7.59
March.....	153.2	12	1.7	4.94	304	325	628	10.2
April.....	892.3	98	3.0	29.7	1,770	452	2,220	37.3
May.....	8,276	503	54	267	16,420	718	17,130	279
June.....	951	66	15	31.7	1,890	546	2,430	40.9
July.....	575.4	30	7.4	18.6	1,140	578	1,720	28.0
August.....	373.6	27	4.1	12.1	741	532	1,270	20.7
September.....	156.8	17	1.2	5.23	311	465	776	13.0
Water year 1939-40	11,876.2	503	.8	32.4	23,560	5,270	28,810	39.7

*Diversion by Grand Junction intake and Raber ditches.
b Stage-discharge relation affected by ice.

TRIBUTARIES ABOVE GREEN RIVER

Dolores River at Dolores, Colo.

Location.- Water-stage recorder, lat. 37°28', long. 108°30', in sec. 9, T. 37 N., R. 15 W., at Dolores, a quarter of a mile upstream from Lost Canyon Creek.

Drainage area.- 508 square miles.

Records available.- June 1895 to October 1903, August 1910 to December 1912 (at site just downstream from Lost Canyon Creek), May 1922 to September 1927 (monthly discharge), and October 1933 to September 1940 in reports of Geological Survey. June 1895 to October 1903, August 1910 to December 1912, and April 1922 to September 1940 in reports of State engineer.

Average discharge.- 19 years (1921-40), 465 second-feet.

Extremes.- Maximum discharge during year, 2,130 second-feet May 14 (gage height, 5.27 feet); minimum daily, 16 second-feet Dec. 24. 1895-1903, 1910-12, 1922-40: Maximum discharge, 10,000 second-feet Oct. 5, 1911 (gage height, 10.2 feet, site and datum then in use), from rating curve extended above 2,800 second-feet; minimum daily, 8 second-feet Aug. 16, 1896.

Remarks.- Records good except those for period of ice effect, which are fair. Diver-sions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	73	60	37	24	35	45	207	792	1,690	226	178	61
2	67	60	38	24	35	50	191	1,000	1,670	200	184	62
3	64	59	39	24	35	50	169	1,120	1,530	180	176	91
4	61	58	38	25	36	*64	169	1,310	1,410	167	173	82
5	60	57	40	25	29	50	191	1,440	1,240	160	171	70
6	57	58	33	23	27	44	191	1,340	1,140	151	180	62
7	55	58	31	17	40	49	191	1,580	994	136	191	68
8	60	53	30	21	37	51	196	1,430	912	154	180	66
9	73	57	32	23	*37	65	209	1,450	840	176	169	57
10	69	57	28	26	37	60	229	1,690	729	173	154	55
11	61	48	26	30	38	59	232	1,680	687	167	154	49
12	61	50	26	27	37	58	269	1,650	677	160	138	52
13	60	53	20	24	36	54	345	1,640	682	158	122	57
14	57	50	*22	20	40	61	492	1,870	687	156	116	59
15	56	44	20	27	43	60	635	1,860	661	180	118	60
16	55	40	21	*28	40	65	573	1,840	562	180	125	59
17	53	40	22	29	39	74	426	1,860	512	191	134	68
18	51	40	21	28	41	76	465	1,750	483	195	136	237
19	51	38	20	21	43	82	729	1,420	438	184	145	383
20	48	38	20	27	38	94	1,060	1,290	410	173	158	333
21	48	47	21	30	45	111	1,310	1,220	379	180	158	269
22	47	49	21	22	46	131	1,290	1,230	375	171	109	315
23	46	46	17	25	45	156	1,360	1,260	345	171	82	298
24	45	43	16	28	45	184	1,250	1,460	308	184	100	263
25	47	39	22	31	46	212	1,160	1,500	278	189	123	237
26	68	44	20	31	47	234	1,190	1,500	257	168	160	204
27	69	46	18	32	48	243	1,260	1,670	234	167	136	195
28	55	40	20	32	45	224	946	1,710	214	165	107	184
29	55	42	21	33	45	184	810	1,540	202	213	90	264
30	57	38	22	33	-	169	713	1,560	218	198	73	301
31	57	-	23	34	-	189	-	1,670	-	182	64	-
Month												
	Second-foot-days		Maximum		Minimum		Mean		Run-off in acre-feet			
October.....	1,796		73		45		57.6		3,540			
November.....	1,452		60		38		49.4		2,880			
December.....	785		40		16		25.3		1,560			
Calendar year 1939.....	91,999		1,610		16		252		182,500			
January.....	824		34		17		28.6		1,630			
February.....	1,155		48		27		39.8		2,290			
March.....	3,238		243		44		10.4		6,420			
April.....	18,457		1,360		169		615		36,610			
May.....	46,532		1,870		792		1,495		91,900			
June.....	20,765		1,690		202		692		41,190			
July.....	6,459		228		136		173		10,830			
August.....	4,304		191		64		139		8,540			
September.....	4,551		383		49		132		9,030			
Water year 1939-40.....	109,108		1,870		16		299		216,400			

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Dec. 4 to Mar. 12.

Dolores River near McPhee, Colo.

Location.- Water-stage recorder, lat. 37°34', long. 108°34', in NE¼ sec. 12, T. 38 N., R. 16 W., 0.8 mile downstream from Beaver Creek and 4½ miles northwest of McPhee. Datum of gage is 6,666.45 feet above mean sea level (unadjusted).

Drainage area.- 803 square miles.

Records available.- October 1938 to September 1940.

Extremes.- Maximum discharge during year, 1,880 second-feet May 14 (gage height, 3.85 feet); minimum daily, 2.1 second-feet Aug. 5.
1938-40: Maximum discharge, 1,900 second-feet Mar. 25, 1939; maximum gage height, 3.85 feet May 14, 1940; minimum daily, 2.1 second-feet July 20, 22, 1939, Aug. 5, 1940.

Remarks.- Records good except those for period of ice effect and those below 10 second-feet, which are fair. Diversions above station for irrigation. Montezuma Irrigation District diverts water from Dolores River, just below station, for irrigation in McElmo Creek Basin.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.1	6.1	4.4	25	5	50	284	970	1,220	10	3.0	3.8
2	5.5	6.6	4.3	25	5	30	86	1,180	1,210	7.1	3.0	4.3
3	5.5	6.4	4.8	10	5	30	68	1,210	1,080	6.6	2.8	5.7
4	21	6.6	4.6	10	5	30	132	1,370	961	5.9	2.7	5.5
5	19	6.4	4.0	10	5	*31	263	1,610	786	7.1	2.1	4.1
6	19	6.4	4.8	10	5	19	388	1,260	678	6.1	2.6	3.6
7	6.8	6.6	4.1	10	5	18	416	1,620	535	5.6	5.7	3.5
8	7.8	7.1	4.1	10	5	16	380	1,350	445	4.6	5.9	3.2
9	6.8	8.1	4.1	10	*5	17	359	1,280	359	4.0	5.9	3.2
10	6.8	7.4	4.6	10	42	22	289	1,500	237	4.1	5.7	2.9
11	7.4	6.8	4.6	27	43	22	256	1,630	180	3.8	5.9	3.0
12	6.4	6.4	5.0	27	44	16	317	1,460	168	4.6	4.4	3.0
13	6.8	6.1	4.3	27	46	16	416	1,410	168	4.6	4.3	3.5
14	6.6	6.1	*4.3	27	45	15	606	1,620	187	4.1	4.0	3.2
15	6.4	5.9	4	27	40	15	812	1,620	168	4.1	3.8	3.0
16	5.9	5.7	4	*27	40	18	804	1,630	94	4.4	3.8	3.2
17	5.7	5.3	4	27	40	26	682	1,640	55	4.4	3.3	3.8
18	5.5	5.0	4	27	41	29	662	1,680	32	5.3	2.8	28
19	5.3	5.5	4	28	41	23	1,010	1,260	13	5.3	2.9	289
20	5.0	5.9	4	28	41	27	1,420	1,040	8.4	4.6	4.4	270
21	5.0	5.7	4	29	42	42	1,660	917	5.9	4.4	5.3	163
22	4.8	5.6	4	29	47	68	1,550	917	8.7	4.0	5.3	224
23	4.6	5.0	4	29	47	86	1,580	917	10	3.8	6.1	187
24	4.8	5.6	4	30	47	126	1,500	1,120	8.7	4.0	9.4	137
25	5.3	4.4	4	30	48	174	1,360	1,150	8.7	5.0	9.7	90
26	7.1	4.3	4	30	50	237	1,340	1,100	9.0	3.5	11	54
27	13	4.6	4	31	50	289	1,410	1,230	8.7	4.3	7.8	42
28	7.8	4.6	4	5	50	296	1,090	1,280	7.8	4.1	6.6	38
29	6.4	4.6	25	5	50	180	1,110	1,110	8.4	4.0	5.7	90
30	6.1	4.6	25	5	-	193	1,010	1,100	9.4	4.1	4.6	439
31	5.9	-	25	5	-	289	-	1,190	-	3.0	4.1	-
Month				Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet			
October.....				236.1		21	4.6	7.62	468			
November.....				175.2		8.1	4.3	5.84	348			
December.....				193.0		25	4.0	6.23	383			
Calendar year 1939.....				64,192.2		1,280	2.1	176	127,300			
January.....				630		31	5	20.3	1,250			
February.....				938		50	5	32.3	1,860			
March.....				2,450		296	15	79.0	4,860			
April.....				23,180		1,660	68	773	45,980			
May.....				39,971		1,640	917	1,289	79,280			
June.....				8,669.7		1,220	5.9	289	17,200			
July.....				150.4		10	3.0	4.85	298			
August.....				154.6		11	2.1	4.99	307			
September.....				2,113.5		439	2.9	70.4	4,190			
Water year 1939-40.....				78,861.5		1,660	2.1	215	156,400			

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Dec. 13 to Mar. 9.

Dolores River at Gateway, Colo.

Location.— Water-stage recorder, lat. 38°41', long. 108°58', in SW¼ sec. 15, T. 51 N., R. 19 W., 0.3 mile southwest of Gateway. 0.3 mile downstream from West Creek, and 8 miles upstream from Colorado-Utah State line. Datum of gage is 4,547.44 feet above mean sea level (unadjusted).

Drainage area.— 4,350 square miles.

Records available.— March 1937 to September 1940.

Extremes.— Maximum discharge during year, 4,590 second-feet Apr. 22 (gage height, 6.75 feet); minimum daily, 45 second-feet Aug. 18.
1937-40: Maximum discharge, 13,000 second-feet Apr. 25, 1938 (gage height, 11.65 feet); minimum daily, that of Aug. 18, 1940.

Remarks.— Records fair. Diversions above station for irrigation. Montezuma Irrigation District diverts water from Dolores River Basin just below station at Dolores for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	147	122	114	108	196	296	790	3,200	2,700	356	136	78
2	145	124	110	112	a220	274	1,020	3,090	2,880	337	128	79
3	145	122	110	114	a260	248	817	2,730	2,730	292	122	185
4	143	120	112	114	227	241	614	2,860	2,200	270	112	154
5	141	122	110	122	a180	206	597	3,320	2,100	263	105	110
6	139	124	112	118	a145	192	707	3,200	1,890	256	124	103
7	118	124	114	a116	a160	192	945	3,050	1,630	241	145	74
8	114	118	112	a112	a160	192	1,110	3,050	1,610	230	139	64
9	114	118	112	a110	a150	196	1,040	2,820	1,230	227	124	69
10	112	118	114	a108	143	202	1,120	2,730	1,220	216	112	86
11	114	118	116	a106	a140	192	1,210	2,990	1,370	157	94	81
12	114	107	112	a165	a150	189	1,100	3,430	1,230	141	84	79
13	112	113	110	152	141	185	1,200	2,960	884	136	73	83
14	112	103	105	128	132	176	1,540	2,970	880	130	68	84
15	112	103	98	93	141	168	1,900	3,120	920	126	64	90
16	112	105	103	88	157	162	2,210	3,060	880	171	56	84
17	112	112	103	118	141	154	2,010	3,120	795	326	51	84
18	112	118	108	116	139	157	1,700	3,220	738	192	45	141
19	112	116	105	96	152	160	2,000	2,970	724	185	54	345
20	110	114	90	126	168	160	2,660	2,710	654	165	53	400
21	110	110	90	107	154	168	3,570	2,540	597	152	56	412
22	110	112	87	141	147	185	4,020	2,280	551	143	58	667
23	108	114	98	143	168	206	3,790	2,080	526	139	79	632
24	108	114	99	120	209	213	3,670	2,100	468	132	165	518
25	103	114	107	145	256	252	3,830	2,060	452	128	139	509
26	116	118	87	157	388	337	3,600	2,050	428	120	341	432
27	299	118	90	174	839	488	3,410	2,440	384	108	390	345
28	165	120	94	174	460	720	3,220	2,730	345	112	154	315
29	150	118	90	171	318	612	2,810	2,730	322	152	139	950
30	122	116	98	160	-	760	2,840	2,500	380	147	108	1,330
31	124	-	103	165	-	680	-	2,470	-	143	103	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						3,935	299	103	127	7,800		
November.....						3,465	124	103	115	6,870		
December.....						3,213	116	87	104	6,370		
Calendar year 1939.....						182,619	3,870	52	500	362,200		
January.....						3,979	174	88	128	7,890		
February.....						6,241	839	132	215	12,380		
March.....						8,763	812	154	233	17,380		
April.....						61,150	4,020	597	2,038	121,300		
May.....						86,590	3,430	2,050	2,733	171,700		
June.....						33,618	2,880	322	1,121	66,680		
July.....						5,893	356	108	190	11,690		
August.....						3,641	390	45	117	7,220		
September.....						8,583	1,330	64	236	17,020		
Water year 1939-40.....						229,071	4,020	45	636	454,300		

a No gage-height record; discharge computed on basis of records for Uncompahgre River at Delta, Colo.

Green River at Warren Bridge, near Daniel, Wyo.

Location.— Water-stage recorder, lat. 43°00', long. 110°07', in sec. 8, T. 35 N., R. 111 W., at Warren Bridge, 12 miles north of Daniel. Datum of gage is 7,468.09 feet above mean sea level (unadjusted).

Drainage area.— 468 square miles.

Records available.— October 1931 to September 1940.

Extremes.— Maximum discharge during year, 1,720 second-feet June 17 (gage height, 3.80 feet); minimum daily, 62 second-feet Feb. 21, 22.

1931-40: Maximum discharge, 3,260 second-feet June 26, 1932 (gage height, 5.08 feet), from rating curve extended above 2,500 second-feet; minimum not determined, occurred during winter.

Remarks.— Records excellent except those for period of ice effect, which are fair. Natural regulation by lakes in Green River Basin.

Cooperation.— Records collected in cooperation with Bureau of Reclamation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	230	158	*123	80	76	100	210	215	1,530	678	277	218
2	234	158	125	82	76	94	205	250	1,640	657	285	212
3	246	132	130	82	80	98	190	293	1,580	657	282	218
4	242	130	135	80	76	100	180	352	1,410	650	271	240
5	230	130	135	76	72	98	175	375	1,240	626	264	250
6	220	120	140	72	76	94	175	356	1,250	608	260	282
7	220	128	135	70	78	90	170	325	1,080	596	254	301
8	206	132	130	68	72	94	170	325	936	578	250	285
9	198	132	125	*70	74	90	170	380	832	536	246	274
10	189	125	130	76	78	94	*167	470	699	502	229	268
11	180	120	135	72	72	88	160	626	632	486	226	274
12	174	120	130	70	68	82	155	764	699	475	232	282
13	171	120	125	66	66	78	150	1,040	928	448	236	285
14	168	120	115	66	70	*75	160	1,170	1,260	426	246	282
15	162	120	120	66	74	78	170	1,110	1,530	415	246	274
16	160	115	125	68	68	84	190	1,080	1,660	426	243	274
17	160	120	120	70	66	90	205	1,060	1,680	448	229	264
18	158	120	115	70	64	88	222	1,010	1,650	486	222	250
19	158	125	110	68	66	94	268	978	1,590	486	222	246
20	158	125	105	66	64	100	313	944	1,580	448	226	250
21	155	125	100	66	62	105	285	904	1,600	400	236	250
22	152	125	94	66	62	100	246	832	1,580	370	246	243
23	150	120	90	68	64	120	240	864	1,440	352	260	236
24	148	120	86	68	70	130	243	1,000	1,220	352	271	236
25	145	115	84	70	80	150	250	1,200	1,000	356	268	229
26	148	115	80	74	88	160	254	1,370	888	361	274	229
27	148	115	78	78	82	170	264	1,540	880	352	289	218
28	138	115	76	80	96	175	254	1,550	896	330	285	246
29	142	115	74	82	105	170	243	1,440	784	301	268	317
30	138	120	76	82	-	165	226	1,380	692	274	246	468
31	135	-	78	80	-	190	-	1,410	-	264	226	-
Month												
	Second-foot-days		Maximum		Minimum		Mean		Run-off in acre-feet			
October.....	5,463		246		135		176		10,840			
November.....	3,695		138		115		123		7,330			
December.....	3,424		140		74		110		6,790			
Calendar year 1939.....	163,252		1,840		74		447		323,800			
January.....	2,252		82		66		72.6		4,470			
February.....	2,155		105		62		74.3		4,270			
March.....	3,444		190		75		111		6,830			
April.....	6,310		313		150		210		12,520			
May.....	26,633		1,550		215		859		52,830			
June.....	36,386		1,680		632		1,213		72,170			
July.....	14,344		678		264		463		28,460			
August.....	7,815		289		222		252		15,500			
September.....	7,891		458		212		263		15,650			
Water year 1939-40.....	119,812		1,680		62		327		237,600			

*Winter discharge measurement made on this day.

Note.— Stage-discharge relation affected by ice Nov. 10 to Apr. 17.

Green River near Linwood, Utah

Location.- Water-stage recorder, lat. 40°58', long. 109°35', in SW¹ sec. 29, T. 3 N., R. 21 E., a quarter of a mile upstream from Henrys Fork, 2 miles south of Wyoming-Utah State line, and 5 miles southeast of Linwood. Datum of gage is 5,844.64 feet above mean sea level (unadjusted).

Drainage area.- 14,300 square miles.

Records available.- October 1928 to September 1940.

Average discharge.- 12 years, 1,597 second-feet.

Extremes.- Maximum discharge during year, 4,340 second-feet May 31; maximum gage height, 6.20 Feet Mar. 12 (ice jam); minimum daily discharge, 270 second-feet Jan. 22.
1928-40: Maximum discharge, 15,200 second-feet June 4, 1936 (gage height, 10.11 feet, from recorded range of stage and floodmarks), from rating curve extended above 11,000 second-feet; minimum, 196 second-feet Nov. 27, 1934 (gage height, -0.10 foot).

Remarks.- Records good except those for period of ice effect, which are fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	565	488	400	480	380	860	986	579	4,170	995	380	334
2	551	488	470	480	410	900	977	586	3,750	923	380	329
3	544	488	454	450	420	900	968	565	3,390	923	380	329
4	565	488	488	400	420	880	959	537	3,260	914	385	316
5	565	488	459	400	430	860	950	500	3,360	923	375	312
6	565	494	470	400	410	850	941	470	3,410	842	365	304
7	565	494	432	350	400	890	923	442	3,220	788	360	296
8	572	494	442	320	400	900	869	437	3,170	743	365	296
9	579	494	476	350	420	910	770	442	3,140	689	370	296
10	572	488	551	400	430	920	716	458	2,760	632	370	304
11	565	494	565	390	410	820	689	482	2,340	579	370	304
12	561	494	586	380	*379	780	656	476	2,060	558	370	320
13	544	488	520	*355	370	760	648	454	1,870	530	365	352
14	537	464	500	370	380	780	672	579	1,640	500	360	329
15	537	459	520	360	400	820	656	995	1,430	482	356	312
16	518	464	540	360	390	842	632	1,380	1,270	454	347	300
17	512	470	530	380	360	941	632	1,810	1,260	432	338	292
18	512	464	500	320	340	905	689	2,010	1,410	420	334	288
19	512	390	460	300	350	896	752	2,140	1,660	405	334	288
20	512	338	470	320	360	977	770	2,220	1,900	410	329	296
21	512	320	450	330	340	959	743	2,180	2,010	442	320	288
22	512	352	410	270	360	1,050	734	1,990	1,970	448	320	288
23	512	347	420	300	380	1,190	707	2,010	1,820	442	312	288
24	512	390	430	340	400	1,220	734	1,940	1,760	432	312	288
25	506	410	390	360	430	1,220	716	1,740	1,740	410	316	288
26	518	395	320	350	480	1,140	648	1,590	1,670	400	320	292
27	512	420	330	370	600	1,150	632	1,660	1,560	395	316	292
28	500	442	320	400	700	1,190	648	2,680	1,380	385	316	316
29	500	375	340	380	780	1,180	608	3,390	1,210	380	324	410
30	488	334	390	370	-	1,090	593	4,120	1,090	380	334	707
31	488	-	450	360	-	1,010	-	4,290	-	380	334	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						16,503	579	488	532	32,730		
November.....						13,204	494	320	440	26,190		
December.....						14,083	586	320	454	27,930		
Calendar year 1939.....						517,852	5,180	320	1,419	1,027,000		
January.....						11,395	490	270	368	22,600		
February.....						12,329	780	340	425	24,450		
March.....						29,790	1,220	760	961	59,090		
April.....						22,618	986	593	754	44,860		
May.....						45,182	4,290	437	1,457	89,620		
June.....						66,670	4,170	1,090	2,222	132,200		
July.....						17,636	995	380	569	34,980		
August.....						10,757	385	312	347	21,340		
September.....						9,654	707	288	322	19,150		
Water year 1939-40.....						269,821	4,290	270	737	535,100		

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Dec. 13 to Mar. 15.

Green River at Green River, Utah

Location.- Water-stage recorder, lat. 39°00', long. 110°09', in NW¼ sec. 15, T. 21 S., R. 16 E., 1 mile southeast of town of Green River and 22 miles upstream from San Rafael River.

Drainage area.- 40,600 square miles.

Records available.- October 1894 to October 1899, February 1905 to December 1911, June 1924 to September 1940. December 1910 to June 1924, at site 7 miles downstream, published as Green River at Little Valley, near Green River, Utah.

Average discharge.- 40 years (1894-99, 1905-40), 7,035 second-feet.

Extremes.- Maximum discharge during year, 16,200 second-feet May 17 (gage height, 9.37 feet); minimum, 408 second-feet Jan. 19 (gage height, 4.65 feet).
1894-99, 1905-40: Maximum discharge (revised), 68,100 second-feet June 27, 1917 (gage height, 14.53 feet, site and datum then in use); minimum, 255 second-feet Nov. 26, 1931 (gage height, 4.17 feet); minimum gage height, 4.08 feet Aug. 1, Dec. 5, 1934.

Remarks.- Records excellent. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,850	1,840	1,560	786	1,400	2,030	3,950	8,920	12,800	3,540	878	926
2	1,850	1,820	1,620	786	1,620	2,670	3,950	8,700	13,400	3,400	830	902
3	1,850	1,780	1,630	976	1,630	3,810	3,810	8,060	13,100	3,020	808	830
4	1,960	1,770	1,620	1,320	1,680	4,710	3,540	7,240	13,600	2,780	908	1,280
5	1,800	1,770	1,580	1,720	1,670	4,240	3,400	6,270	13,600	2,560	742	1,050
6	1,890	1,770	1,550	1,870	1,670	4,240	3,540	5,720	13,400	2,410	720	890
7	2,240	1,750	1,550	1,960	1,730	4,550	3,810	6,270	12,800	2,280	819	854
8	2,340	1,730	1,650	1,850	1,720	4,400	3,950	9,140	12,100	2,180	775	866
9	2,780	1,750	1,670	1,910	1,750	3,950	3,670	10,800	11,600	2,180	710	819
10	2,340	1,730	1,680	1,890	1,730	3,400	3,400	10,600	10,600	2,140	700	797
11	2,670	1,730	1,700	1,780	1,720	3,270	3,400	10,400	9,600	2,030	690	786
12	2,670	1,730	1,700	1,750	1,700	3,140	3,540	10,800	9,140	1,910	680	775
13	2,340	1,720	1,700	1,840	1,650	3,140	3,540	12,400	8,480	1,830	680	819
14	2,180	1,720	1,700	1,850	1,650	3,140	3,270	13,600	7,440	1,700	640	1,080
15	2,140	1,700	1,680	1,700	1,720	2,900	3,140	14,100	6,650	1,560	630	1,250
16	2,110	1,680	1,770	1,430	1,720	2,780	3,140	15,100	6,460	1,530	620	1,260
17	2,090	1,680	1,750	1,220	1,620	2,670	3,020	15,700	6,270	1,450	611	1,120
18	2,090	1,680	1,670	976	1,550	2,670	2,900	15,100	6,080	1,330	620	2,660
19	2,030	1,650	1,550	539	1,650	2,560	2,900	14,600	5,900	1,330	620	1,960
20	1,980	1,600	1,500	690	1,650	2,670	3,400	15,100	5,540	1,450	660	2,010
21	1,920	1,550	1,400	866	1,630	2,670	4,240	15,700	5,370	1,300	710	1,870
22	1,910	1,510	1,260	1,110	1,680	2,670	4,400	14,100	5,370	1,190	650	1,650
23	1,870	1,480	1,190	1,150	1,680	2,780	4,400	13,600	5,040	1,110	630	1,850
24	1,840	1,480	1,160	1,020	1,620	2,900	4,550	13,100	5,040	1,040	660	1,960
25	1,820	1,480	1,080	963	1,630	2,900	5,370	12,400	5,040	1,000	742	1,700
26	1,800	1,470	938	1,000	1,730	2,780	6,080	11,600	5,200	939	950	1,620
27	1,780	1,450	1,050	1,000	1,770	2,900	6,270	10,800	5,040	939	1,050	1,660
28	1,750	1,450	1,110	1,070	1,820	3,020	6,460	10,600	4,550	939	1,360	1,470
29	1,910	1,500	976	1,250	1,890	3,270	7,850	10,800	4,840	936	1,550	1,910
30	1,940	1,530	902	1,430	-	3,540	8,920	11,100	4,100	902	1,310	2,320
31	1,870	-	819	1,450	-	3,810	-	12,100	-	890	1,090	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						63,610	2,780	1,750	2,052	126,200		
November.....						49,500	1,840	1,450	1,650	98,180		
December.....						44,705	1,770	819	1,442	88,670		
Calendar year 1939.....						1,600,344	17,400	819	4,585	3,174,000		
January.....						41,152	1,960	539	1,327	81,620		
February.....						45,690	1,890	1,400	1,679	96,580		
March.....						100,180	4,710	2,030	3,232	198,700		
April.....						127,810	8,920	2,900	4,260	255,500		
May.....						354,520	15,700	5,720	11,440	703,200		
June.....						248,150	13,600	4,100	8,272	492,200		
July.....						53,826	3,540	890	1,736	106,800		
August.....						24,943	1,550	611	805	49,470		
September.....						40,844	2,660	775	1,361	81,010		
Water year 1939-40.....						1,197,930	16,700	539	3,273	2,376,000		

Beaver Creek near Daniel, Wyo.

Location.- Water-stage recorder, lat. 43°00', long. 110°09', in sec. 18, T. 35 N., R. 111 W., at Hanson ranch, half a mile downstream from forks, 1 mile upstream from mouth, 2 miles southwest of Warren Bridge, and 11 miles northwest of Daniel.

Drainage area.- 141 square miles.

Records available.- November 1938 to September 1940.

Extremes.- Maximum discharge during year, 135 second-feet Apr. 17 (gage height, 4.85 feet); no flow July 8-15, 21-24, Aug. 2-25, Sept. 5-11.
1938-40: Maximum discharge, 179 second-feet Apr. 8 (gage height, 5.32 feet); no flow July 8-15, 21-24, Aug. 2-25, Sept. 5-11, 1940.

Remarks.- Records good except those for periods of ice effect and those below 5 second-feet, which are fair. Diversions above station for irrigation.

Cooperation.- Records collected in cooperation with Bureau of Reclamation.

Rating table, water year 1939-40, except periods of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Aug. 25 to Sept. 30)

Oct. 1 to Nov. 30

Dec. 1 to Sept. 30

3.0	0.1	2.9	0	3.3	6.8	3.8	36
3.1	.5	3.0	.2	3.4	11	4.0	52
3.2	2.0	3.1	.7	3.5	16	4.6	110
3.3	5	3.2	3.0	3.6	22		
3.5	13						

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.6	3.8	*8.1	7	7.5	22	64	35	0.2	0.2	0.1	0.2
2	.5	3.8	8	7	8	22	62	32	.2	.2	0	.2
3	.4	3.5	8	7	8	23	60	37	.2	.2	0	.2
4	1.2	3.5	8	7	8.5	25	56	43	.2	.2	0	.3
5	1.6	2.9	8.5	7	8	26	52	36	.3	.1	0	0
6	.4	2.5	8.5	7	8	27	54	30	2.7	.1	0	0
7	.5	5.4	8.5	6.5	8.5	29	50	21	.6	.1	0	0
8	2.0	6.2	8.5	6.4	8.5	28	50	16	.3	0	0	0
9	2.9	5.8	8.5	*6.4	8	33	52	12	.2	0	0	0
10	.6	5.0	8	6.5	9	32	44	9.7	.2	0	0	0
11	.8	8.6	8	7	8.5	32	45	8.9	.2	0	0	0
12	1.7	8.5	7.5	6.5	8	34	38	9.7	.2	0	0	.1
13	1.7	8.6	8	6	8	36	76	23	.2	0	0	.1
14	.8	8.6	8	6	8.5	39	87	18	.3	0	0	.5
15	.5	8.6	8.5	6	9.5	41	95	7.2	.2	0	0	.5
16	1.4	9.0	9	6	9	38	81	.4	.1	.1	0	.4
17	1.7	8.6	9	6.5	9	41	92	.3	.1	.1	0	.4
18	1.4	8.6	8	6	9.5	40	95	.4	.1	.1	0	.2
19	1.4	9.4	7.5	5.5	10	42	98	.3	.1	.1	0	.1
20	1.7	10	8	6	9.5	45	109	.4	.1	.1	0	.1
21	2.3	9.4	8	6	10	45	99	.3	.1	0	0	.2
22	1.4	9.4	8	6	12	50	72	.2	.2	0	0	.2
23	4.7	9.4	7.5	6	13	54	69	.2	.1	0	0	.2
24	4.4	9.0	7	6	15	52	71	.2	.1	0	0	.1
25	1.4	9.8	7	6.5	16	56	71	.2	.1	.1	0	.1
26	.8	10	7	7	17	60	73	.3	.1	.1	.4	.1
27	2.9	10	6	7	19	58	71	.2	.1	.1	.5	.1
28	3.8	9.8	5	7	20	56	55	.2	.1	.1	.4	.2
29	4.7	8.6	5.5	7.5	23	58	57	.2	.1	.2	.4	.6
30	4.4	8	6	7.5	-	56	42	.2	.1	.2	.4	.6
31	4.7	-	6.5	7	-	60	-	.2	-	.2	.2	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						60.3	4.7	0.4	1.95	120		
November.....						224.5	10	2.6	7.48	445		
December.....						237.6	9	5	7.66	471		
Calendar year 1939.....						5,793.8	141	.1	15.9	11,500		
January.....						202.4	7.5	5.5	6.53	401		
February.....						316.5	23	7.5	10.9	628		
March.....						1,260	60	22	40.6	2,500		
April.....						2,040	109	38	68.0	4,050		
May.....						342.7	43	.2	11.1	680		
June.....						7.8	2.7	.1	.26	15		
July.....						2.6	.2	0	.08	5.2		
August.....						2.4	.5	0	.08	4.8		
September.....						5.7	.6	0	.19	11		
Water year 1939-40.....						4,702.5	109	0	12.8	9,350		

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 27, Nov. 30 to Apr. 9.

Horse Creek near Daniel, Wyo.

Location.- Water-stage recorder, lat. 42°56', long. 110°12', in sec. 10, T. 34 N., R. 112 W., 12 miles northwest of Daniel. Datum of gage is 7,349.88 feet above mean sea level (general adjustment of 1929).

Drainage area.- 124 square miles.

Records available.- October 1931 to September 1940.

Extremes.- Maximum discharge during year, 298 second-feet May 29 (gage height, 1.68 feet); minimum daily, 1 second-foot July 22, 23.
1931-40: Maximum discharge, 1,670 second-feet May 31, 1936 (gage height, 3.53 feet), from rating curve extended above 730 second-feet; minimum daily, that of July 22, 23, 1940.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Diversions above station for irrigation.

Cooperation.- Records collected in cooperation with Bureau of Reclamation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	13	13	11	9.5	13	27	13	133	£.6	6.5	8.3
2	13	13	*12	12	10	12	31	10	123	£.0	6.8	8.3
3	15	13	12	11	10	13	27	10	113	£.6	6.5	7.9
4	14	13	13	11	11	13	24	11	95	7.5	6.5	8.6
5	13	13	13	10	10	14	27	12	123	7	6.5	8.6
6	13	14	12	9.5	9.5	13	29	14	154	£.5	6.5	8.3
7	13	12	11	9	10	13	26	15	103	£.5	7.2	8.3
8	14	13	12	*9.4	9.5	14	28	14	86	£	9.0	8.3
9	14	13	11	10	9	13	31	14	81	£	8.6	9.0
10	14	14	12	11	8.5	15	29	15	67	£.5	8.6	9.4
11	12	15	13	11	8	14	29	29	54	7	7.5	9.0
12	12	15	12	10	7.5	14	26	42	50	£.5	7.5	8.6
13	12	15	11	9.5	7	14	30	79	45	£	7.5	9.4
14	12	15	10	9	7.5	15	41	108	40	4.5	7.9	10
15	12	15	10	9	8	17	51	90	40	3	7.5	9.4
16	12	16	11	9	7.5	18	50	90	34	3.5	7.9	8.6
17	12	17	11	10	7	19	52	99	30	4	7.9	8.6
18	12	14	10	10	7.5	17	63	95	21	3	7.9	9.4
19	12	14	9.5	9	7	18	64	84	18	2.5	7.9	9.8
20	12	13	9.5	8	7	19	51	83	18	2	8.3	9.8
21	12	14	9	8.5	7	20	41	84	13	1.5	9.4	9.8
22	12	13	8.5	9	7.5	21	34	70	12	1	9.0	9.4
23	12	13	9	9	8.5	22	29	75	10	1	9.0	9.0
24	12	14	9	8.5	9.5	24	27	126	9.8	1.5	9.4	9.0
25	12	14	8.5	9	10	26	24	151	8	2.5	10	9.4
26	12	14	8	9.5	11	28	21	213	8	7.5	10	9.8
27	12	13	8	9.5	11	29	18	222	8	6.8	10	9.8
28	12	13	8.5	11	12	30	18	213	7.5	8.3	9.0	15
29	12	12	9	12	13	27	16	255	7.5	7.2	8.6	15
30	12	13	9.5	11	-	25	15	183	8	7.2	8.3	14
31	12	-	10	10	-	26	-	148	-	6.8	7.9	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						398	15	12	12.5	770		
November.....						413	17	12	13.8	819		
December.....						325.0	13	8	10.5	645		
Calendar year						-	-	-	-	-		
January.....						305.4	12	8	9.85	606		
February.....						260.5	13	7	8.98	517		
March.....						576	30	12	18.6	1,140		
April.....						979	64	15	32.6	1,940		
May.....						2,667	255	10	86.0	5,290		
June.....						1,519.8	154	7.5	50.7	3,010		
July.....						165.5	9.0	1	5.34	328		
August.....						251.1	10	6.5	8.10	498		
September.....						287.8	15	7.9	9.59	571		
Water year 1939-40.....						8,138.1	255	1	22.2	16,130		

*Winter discharge measurement made on this day.

Note.- Discharge for periods of no gage-height record, June 25-30, July 4-25, Aug. 1, 3-6, computed on the basis of one discharge measurement and records for North Piney Creek near Mason. Stage-discharge relation affected by ice Nov. 10 to Mar. 31.

Cottonwood Creek near Daniel, Wyo.

Location.- Water-stage recorder, lat. 42°47', long. 110°09', in sec. 11, T. 32 N., R. 112 W., 1½ miles downstream from forks and 7 miles southwest of Daniel.

Drainage area.- 204 square miles.

Records available.- October 1938 to September 1940.

Extremes.- Maximum discharge during year, 141 second-feet May 30 (gage height, 5.66 feet); no flow Aug. 19-22.
1938-40: Maximum discharge, 248 second-feet May 31, 1939 (gage height, 5.96 feet); no flow Aug. 19-22, 1940.

Remarks.- Records good except those for period of ice effect, which are fair. Diversions above station for irrigation.

Cooperation.- Records collected in cooperation with Bureau of Reclamation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.2	13	18	9	8.5	21	48	20	54	24	2.3	1.2
2	11	12	17	9	9	20	*51	20	53	28	2.0	1.1
3	12	11	16	9	9.5	21	50	23	60	31	1.6	1.0
4	12	11	16	9	10	22	46	25	51	26	.8	1.6
5	10	11	16	9	9	21	42	22	65	25	.4	2.0
6	9.4	12	17	9	9.5	24	45	20	102	20	.2	2.3
7	10	13	17	8	10	26	39	20	62	17	.2	2.3
8	11	15	18	7.5	9.5	24	46	18	46	14	.4	2.3
9	10	16	18	7.5	10	28	45	18	41	13	.8	2.3
10	10	17	18	*8.0	10	30	38	19	35	12	1.2	3.9
11	9.4	16	16	8.5	9.5	28	36	20	29	12	1.0	4.9
12	9.4	15	13	8	9	28	32	22	24	9.1	.5	4.2
13	9.4	16	14	7	8.5	30	38	34	23	7.7	.5	4.2
14	10	16	14	7	9.5	32	41	45	24	6.5	.5	4.9
15	10	16	14	7	11	34	46	46	23	5.3	.4	4.5
16	10	17	15	7.5	10	32	53	39	22	4.9	.2	3.9
17	10	18	14	8	10	34	56	39	20	6.5	.1	3.9
18	11	17	12	7	10	32	64	39	19	9.7	.1	3.9
19	11	16	11	6.5	10	34	65	41	18	8.5	0	4.5
20	11	15	12	6.5	10	36	44	40	22	7.3	0	4.5
21	11	15	12	6.5	9.5	38	37	46	20	5.7	0	5.3
22	11	15	12	6.5	10	44	30	44	20	3.9	0	4.9
23	11	15	10	6.5	12	44	27	37	18	3.1	1.4	4.5
24	11	14	9	7	13	44	31	35	20	2.3	2.0	4.2
25	10	14	9	7	14	46	33	41	20	1.2	3.1	4.2
26	11	13	9	7.5	16	48	32	64	25	1.0	4.9	5.3
27	11	12	7	8	17	48	28	100	20	.5	4.9	5.3
28	11	15	6.5	8.5	18	*46	27	75	23	1.4	3.9	9.7
29	12	*17	7	8.5	22	44	23	119	26	1.6	2.5	13
30	12	18	7.5	8.5	-	46	20	102	23	1.7	1.6	13
31	12	-	8	8	-	45	-	82	-	1.7	1.2	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						327.8	12	8.2	10.6	650		
November.....						441	18	11	14.7	875		
December.....						403.0	18	6.5	13.0	799		
Calendar year 1939.....						14,576.2	228	6.0	39.9	28,900		
January.....						240.5	9	6.5	7.76	477		
February.....						324.0	22	8.5	11.2	643		
March.....						1,050	48	20	33.9	2,080		
April.....						1,213	65	20	40.4	2,410		
May.....						1,315	119	18	42.4	2,610		
June.....						1,008	102	18	33.6	2,000		
July.....						311.6	31	.5	10.1	618		
August.....						38.7	4.9	0	1.25	77		
September.....						132.8	13	1.0	4.43	263		
Water year 1939-40.....						6,805.4	119	0	18.6	13,500		

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 7 to Apr. 4.

Cottonwood Creek near mouth, near Big Piney, Wyo.

Location.- Water-stage recorder, lat. 42°40', long. 110°00', in sec. 13, T. 31 N., R. 111 W., 2 miles upstream from mouth and 10 miles northeast of Big Piney.

Drainage area.- 227 square miles (revised).

Records available.- November 1938 to September 1940 (discontinued).

Extremes.- Maximum discharge during year, 60 second-feet May 30 (gage height, 7.09 feet); no flow Aug. 3 to Sept. 30.
1938-40: Maximum discharge, 209 second-feet Mar. 31, 1939; no flow Aug. 31 to Sept. 15, 1939, Aug. 3 to Sept. 30, 1940.

Remarks.- Records fair. Diversions above station for irrigation.

Cooperation.- Records collected in cooperation with Bureau of Reclamation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.3	13					48	5.1	26	3.8	0.1	
2	5.4	13					*50	5.4	18	6.6	.1	
3	8.5	14					42	5.1	23	6.6	0	
4	9.7	13					36	4.8	25	4.0	0	
5	11	13					28	4.0	30	4.3	0	
6	11	12					32	3.8	40	4.0	0	
7	11	12					26	3.8	47	3.4	0	
8	10	13					24	3.6	37	2.7	0	
9	10	14					21	2.4	29	1.5	0	
10	10	10		(*)			14	2.4	21	.8	0	
11	10	9.7					13	2.2	14	.6	0	
12	10	9.1					12	2.2	9.1	.4	0	
13	11	8.5					8.5	2.4	6.3	.2	0	
14	11	7.5					4.8	2.1	4.3	.2	0	
15	11	9.4	6.5	4.2	8.0	25	6.3	2.2	2.7	.1	0	
16	11	9.7					13	3.6	1.6	.2	0	
17	11	9.7					19	4.3	1.1	.2	0	
18	11	9.4					16	3.4	.8	.2	0	
19	11	8.8					16	3.1	.9	.2	0	
20	12	8.8					18	4.8	.8	.1	0	
21	12	7.8					15	7.5	.6	.1	0	
22	12	8.5					13	8.1	.5	.1	0	
23	12	8.1					12	8.5	.4	.1	0	
24	12	8.5					12	7.2	.3	.1	0	
25	12	8					10	6.3	.3	.1	0	
26	12	8					9.1	5.4	.6	.1	0	
27	12	8					7.8	8.8	5.1	.1	0	
28	12	8				(*)	7.5	24	4.8	.1	0	
29	13	*8.7					6.9	32	4.0	.1	0	
30	13	9					5.7	54	3.6	.1	0	
31	13	-					-	44	-	.1	0	
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						334.9	13	4.3	10.8	664		
November.....						300.2	14	7.5	10.0	595		
December.....						201.5	-	-	6.5	400		
Calendar year						-	-	-	-	-		
January.....						130.2	-	-	4.2	258		
February.....						232.0	-	-	8.0	460		
March.....						775	-	-	25	1,540		
April.....						546.6	50	4.8	18.2	1,080		
May.....						276.6	54	2.1	8.92	548		
June.....						357.8	47	.3	11.9	710		
July.....						41.2	6.6	.1	1.33	82		
August.....						.2	0.1	0	.01	.4		
September.....						0	0	0	0	0		
Water year 1939-40.....						3,196.1	-	0	8.73	6,340		

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 25 to Apr. 4.

GREEN RIVER BASIN

East Fork near Big Sandy, Wyo.

Location.- Water-stage recorder, lat. 42°40', long. 109°25', in sec. 7, T. 31 N., R. 105 W., 1 mile downstream from Jim Creek and 4 miles northeast of Big Sandy.

Drainage area.- 79.2 square miles.

Records available.- October 1933 to September 1940. May 1916 to September 1917 and May 1921 to November 1923, at site 2 miles downstream (published as East Fork at East Fork Canal).

Extremes.- Maximum discharge during year, 680 second-feet May 12 (gage height, 5.38 feet), from rating curve extended above 370 second-feet; minimum discharge observed, 1.2 second-feet Jan. 4 (discharge measurement), but probably less during period of ice effect.

1916-17, 1921-23, 1933-40: Maximum discharge, 1,400 second-feet June 27, 1917 (gage height, 4.6 feet, site and datum then in use), from rating curve extended above 850 second-feet; minimum discharge observed, that of Jan. 4, 1940, but probably less during period of ice effect.

Remarks.- Records excellent except those below 20 second-feet, which are good, and those for period of ice effect, which are fair. No diversions above station.

Cooperation.- Records collected in cooperation with Bureau of Reclamation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.2	7.0					4.4	37	305	47	3.7	3.4
2	12	7.0					4.2	49	270	70	2.8	3.4
3	16	6.7					4.2	106	234	100	2.4	2.8
4	17	6.7		(*)			4.2	163	185	85	2.4	3.4
5	17	5.2					4.6	175	222	70	2.4	5.4
6	16	5.0		(*)			4.6	159	237	57	2.4	6.8
7	14	5.0					4.8	155	200	47	2.4	5.4
8	14	5.0					5.2	213	167	40	2.4	4.4
9	13	5.2					*5.2	291	141	36	2.4	4.4
10	12	4.2					5.0	422	130	33	3.1	5.0
11	12	4.0					4.6	567	136	31	2.8	8.6
12	11	4.2					4.6	808	139	29	2.8	10
13	11	4.2					7.0	549	149	26	2.8	13
14	10	3.6					8.8	450	159	23	2.8	13
15	9.5	3.2	1.2	1.1	1.3	2.3	11	459	153	21	2.8	12
16	9.2	3.0					10	472	143	21	2.8	10
17	8.8	3.0					11	375	130	21	2.8	9.5
18	8.8	2.8					13	347	115	19	2.4	8.6
19	8.1	2.6					16	336	108	18	2.4	10
20	7.4	2.6					19	330	116	16	2.4	10
21	7.4	2.6					19	231	147	14	2.1	13
22	7.4	2.6					19	228	132	13	1.8	13
23	7.0	2.4					18	277	105	11	1.3	12
24	6.4	2.4					20	333	80	9.5	1.3	11
25	6.4	2.2					23	330	69	8.6	1.3	10
26	6.4	2.0					27	336	62	6.8	1.6	10
27	6.4	1.8					30	400	56	5.9	7.7	10
28	5.8	1.8					29	454	50	5.9	7.7	14
29	7.0	1.6					30	430	43	5.4	6.4	30
30	5.8	1.6			-		28	344	37	4.7	5.0	49
31	6.7	-			-		-	330	-	4.4	4.0	-
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....							308.7	17	5.8	9.96	612	
November.....							111.2	7.0	1.6	3.71	221	
December.....							37.2	-	-	1.2	74	
Calendar year 1939.....							23,008.6	616	-	63.0	45,640	
January.....							34.1	-	-	1.1	68	
February.....							37.7	-	-	1.3	76	
March.....							71.3	-	-	2.3	141	
April.....							394.4	30	4.2	13.1	782	
May.....							9,946	608	37	321	19,730	
June.....							4,219	305	37	141	8,370	
July.....							599.2	100	4.4	27.0	1,780	
August.....							95.4	7.7	1.3	3.01	185	
September.....							321.1	49	2.8	10.7	637	
Water year 1939-40.....							16,473.3	608	-	45.0	32,680	

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 14 to Apr. 16.

Silver Creek near Big Sandy, Wyo.

Location.- Water-stage recorder, lat. 42°45', long. 109°31', in sec. 17, T. 32 N., R. 106 W., at Miller ranch, 1 mile downstream from South Fork, 8 miles northwest of Big Sandy, and 11 miles east of Boulder.

Drainage area.- 45.4 square miles.

Records available.- October 1938 to September 1940.

Extremes.- Maximum discharge during year, 326 second-feet May 10 (gage height, 5.57 feet), from rating curve extended above 250 second-feet; no flow Oct. 1-24, Oct. 29 to Mar. 24, Aug. 2 to Sept. 30.
1938-40: Maximum discharge, 381 second-feet May 5, 1939 (gage height, 5.74 feet), from rating curve extended above 250 second-feet; no flow at times during each year.

Remarks.- Records excellent Apr. 19 to July 5, fair for remainder of year. One small diversion above station.

Cooperation.- Records collected in cooperation with Bureau of Reclamation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0					0	0.4	5.5	91	10	0.1	
2	0					0	.3	9.8	75	12	0	
3	0					0	.3	25	67	13	0	
4	0					0	.3	45	62	12	0	
5	0					0	.4	41	89	7.9	0	
6	0					0	.5	40	95	4.7	0	
7	0					0	.6	44	75	3.9	0	
8	0					0	.6	87	69	3.0	0	
9	0					0	.7	145	66	2.2	0	
10	0					0	.8	217	57	1.9	0	
11	0					0	.8	243	48	1.6	0	
12	0					0	.9	240	40	1.3	0	
13	0					0	1.5	232	35	1.0	0	
14	0					0	3.5	203	37	.9	0	
15	0					0	6.4	193	29	.8	0	
16	0					0	6.0	180	24	.8	0	
17	0					0	5.5	159	20	.7	0	
18	0					0	6.1	140	18	.6	0	
19	0					0	7.3	127	32	.6	0	
20	0					0	8.5	119	37	.4	0	
21	0					0	7.6	104	19	.3	0	
22	0					0	7.0	96	10	.3	0	
23	0					0	6.4	88	7.9	.3	0	
24	0					0	7.3	87	16	.3	0	
25	.1					.1	7.9	87	28	.3	0	
26	.1					.2	8.8	91	24	.2	0	
27	.1					.3	9.8	163	20	.2	0	
28	.1					.3	9.4	214	16	.2	0	
29	0					.3	9.4	203	14	.1	0	
30	0					.3	7.6	165	11	.1	0	
31	0					.4	-	116	-	.1	0	
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						0.4	0.1	0	0.01	0.8		
November.....						0	0	0	0	0		
December.....						0	0	0	0	0		
Calendar year 1939.....						10,235.9	331	0	28.0	20,300		
January.....						0	0	0	0	0		
February.....						0	0	0	0	0		
March.....						1.9	.4	0	.06	3.8		
April.....						132.6	9.8	.3	4.42	263		
May.....						3,896.3	243	5.5	126	7,730		
June.....						1,231.9	95	7.9	41.1	2,440		
July.....						81.7	13	.1	2.64	162		
August.....						.1	.1	0	0	.2		
September.....						0	0	0	0	0		
Water year 1939-40.....						5,344.9	243	0	14.6	10,600		

Note.- No gage-height record for periods Oct. 1 to Apr. 18 and July 6 to Sept. 30; discharge computed on basis of six discharge measurements, engineers' notes, and weather records.

New Fork below New Fork Lake, near Cora, Wyo.

Location.- Water-stage recorder, lat. 43°05', long. 110°01', in sec. 30, T. 36 N., R. 110 W., 2 miles downstream from New Fork Lake and 9 miles north of Cora.

Drainage area.- 36.2 square miles.

Records available.- October 1938 to September 1940.

Extremes.- Maximum discharge during year, 342 second-feet May 24 (gage height, 5.06 feet); minimum daily, 0.9 second-foot when gates at New Fork Lake were closed.
1938-40: Maximum discharge, that of May 24, 1940; minimum, 0.9 second-foot when gates at New Fork Lake were closed.

Remarks.- Records excellent except those for period of ice effect, which are fair. Flow regulated for irrigation by New Fork Lake (capacity, 45,900 acre-feet). No diversions above station.

Cooperation.- Records collected in cooperation with Bureau of Reclamation.

Rating tables, water year 1939-40, except period of ice effect (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Nov. 15		Nov. 17 to Sept. 30	
2.6	0.9	0.6	0.9
2.7	1.3	.7	1.3
2.8	1.9	.8	1.9
2.9	3.1	2.9	3.8
3.0	4.8	3.0	6.0
3.1	7.5	3.1	9.0
3.2	12	3.2	14
3.3	18	3.3	21
3.5	34	3.5	37
			46
			56
			68
			82
			98
			116
			136
			202
			352

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	32	14					2.0	1.7	295	124	16	4.8
2	31	14					1.8	1.8	257	112	15	4.2
3	30	13					*1.6	1.8	224	100	14	4.5
4	28	13					1.6	1.7	221	92	12	4.7
5	28	8.8					1.7	1.7	180	85	12	4.7
6	28	1.6					1.8	1.7	149	78	12	4.5
7	27	1.3					1.7	1.7	147	72	10	4.7
8	26	1.1					1.7	1.7	147	67	10	4.9
9	26	1.0					1.7	1.7	145	65	9.5	5.1
10	24	1.0					1.7	1.7	162	58	9.5	5.1
11	23	.9					1.7	1.7	178	54	9.0	5.3
12	22	.9					1.7	1.8	178	51	8.7	5.3
13	21	.9					1.8	1.9	189	48	8.4	5.6
14	21	.9					1.8	1.8	224	45	8.1	6.0
15	20	.9	0.9	0.9	1.0	1.4	1.9	1.8	224	43	7.8	6.3
16	20	1.1					2.1	1.7	224	41	7.5	6.3
17	19	1.0					1.9	1.6	183	40	7.2	6.3
18	18	.9					2.3	1.7	176	38	6.9	6.6
19	18	.9					1.9	1.7	176	35	6.6	7.2
20	17	.9					2.1	1.7	176	34	6.3	7.5
21	17	.9					1.8	10	187	32	6.0	7.8
22	16	.9					1.9	231	221	31	6.0	8.1
23	16	.9					1.9	282	214	29	5.8	8.1
24	15	.9					2.3	297	204	27	5.6	8.1
25	16	.9					2.3	336	193	26	5.5	8.4
26	17	.9					2.3	331	187	24	5.6	8.7
27	17	.9					1.9	326	178	23	5.8	9.0
28	16	.9					1.8	318	162	21	5.3	12
29	16	.9					1.8	313	149	20	5.1	12
30	14	.9					1.7	303	134	19	4.9	3.2
31	15	-					-	297	-	18	4.7	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	654	32	14	21.1	1,300
November.....	87.1	14	.9	2.90	173
December.....	27.9	-	-	.9	55
Calendar year 1939.....	18,287.8	320	-	50.1	36,280
January.....	27.9	-	-	.9	55
February.....	29.0	-	-	1.0	58
March.....	43.4	-	-	1.4	86
April.....	56.2	2.3	1.6	1.27	111
May.....	3,078.6	336	1.6	99.3	6,110
June.....	5,694	295	154	190	11,230
July.....	1,580	124	18	50.0	3,070
August.....	256.9	16	4.7	6.29	510
September.....	194.7	12	3.2	6.49	396
Water year 1939-40.....	11,699.7	336	-	32.0	23,200

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 17 to Apr. 10.

New Fork near Pinedale, Wyo.

Location.- Water-stage recorder, lat. 42°50', long. 109°51', in sec. 15, T. 33 N., R. 109 W., a quarter of a mile upstream from Pine Creek and 2 miles south of Pinedale.

Drainage area.- 241 square miles.

Records available.- October 1938 to September 1940.

Extremes.- Maximum discharge during year, 240 second-feet probably on June 4 (gage height, 6.94 feet); minimum daily, 13 second-feet May 18-21, 23.
1938-40: Maximum discharge, 771 second-feet Mar. 25, 1939 (gage height, 7.93 feet), from rating curve extended above 320 second-feet; minimum daily, that of May 18-21, 23, 1940.

Remarks.- Records good except those for Nov. 16 to Apr. 25 and those for period of no gage-height record, which are fair. Flow regulated for irrigation by New Fork Lake (capacity, 45,900 acre-feet). Diversions above station for irrigation.

Cooperation.- Records collected in cooperation with Bureau of Reclamation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	37	40	37	28	24	32	92	19	49	110	32	17
2	38	40	39	30	25	32	74	18	56	122	34	17
3	41	39	39	30	26	34	66	18	76	122	32	a18
4	40	39	44	28	25	34	54	18	a180	114	30	22
5	39	33	43	28	25	34	58	17	a175	100	30	22
6	38	33	48	26	*25	34	60	17	a165	83	31	21
7	37	33	37	24	24	32	58	17	a150	76	30	21
8	38	33	38	23	24	32	56	17	a125	67	29	20
9	39	39	37	22	24	31	51	17	a115	59	30	21
10	37	34	39	22	25	31	51	17	a95	54	30	20
11	37	34	38	*20	25	30	51	17	a80	51	25	15
12	36	34	37	19	25	28	45	18	a70	50	22	15
13	37	36	36	19	24	*28	51	20	a65	59	22	15
14	39	33	37	19	25	30	53	17	a60	45	22	16
16	40	33	36	20	25	31	53	16	56	44	22	16
16	39	36	35	20	25	30	73	15	56	56	21	16
17	39	36	39	20	24	32	86	14	63	71	20	15
18	39	41	36	20	24	32	84	13	68	70	20	16
19	37	42	34	20	24	33	70	13	73	66	19	16
20	39	39	33	19	24	33	52	13	67	63	20	16
21	37	37	33	19	23	37	32	13	58	58	19	15
22	37	36	33	19	23	47	25	14	58	51	18	15
23	37	35	34	19	23	58	20	13	63	48	18	15
24	38	37	32	19	24	67	22	14	67	45	18	14
25	39	36	31	20	26	76	22	15	64	46	19	14
26	38	33	31	22	28	74	27	17	67	46	20	15
27	38	35	28	24	30	86	26	22	61	46	20	16
28	37	34	28	24	32	84	23	37	56	40	19	25
29	40	33	28	26	34	73	22	53	52	35	17	30
30	38	35	27	26	-	77	21	63	59	33	17	30
31	40	-	28	24	-	90	-	58	-	30	17	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						1,187	41	38	38.3	2,350		
November.....						1,078	42	35	35.9	2,140		
December.....						1,094	48	27	35.3	2,170		
Calendar year 1939.....						23,770	473	18	65.1	47,130		
January.....						699	30	19	22.5	1,390		
February.....						735	34	23	25.3	1,460		
March.....						1,402	90	23	45.2	2,780		
April.....						1,478	92	23	49.3	2,930		
May.....						650	63	13	21.0	1,290		
June.....						2,450	180	43	81.7	4,860		
July.....						1,960	122	37	63.2	3,890		
August.....						723	34	17	23.3	1,430		
September.....						544	30	14	18.1	1,080		
Water year 1939-40.....						14,000	180	13	38.3	27,770		

*Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of records for station near Cora.

Note.- Stage-discharge relation affected by ice Nov. 26-30, Dec. 13, 15, 18, 19, 21, Dec. 25 to Mar. 14.

New Fork near Boulder, Wyo.

Location.- Water-stage recorder, lat. 42°45', long. 109°44', in sec. 9, T. 32 N., R. 108 W., an eighth of a mile upstream from Boulder Creek and half a mile southwest of Boulder.

Drainage area.- 552 square miles.

Records available.- May 1915 to September 1940.

Average discharge.- 25 years, 390 second-feet.

Extremes.- Maximum discharge during year, 1,340 second-feet May 29 (gage height, 4.24 feet); minimum daily, 60 second-feet Feb. 21, 22.

1915-40: Maximum discharge observed, 12,300 second-feet June 17, 1918 (gage height, 8.7 feet), from rating curve extended above 6,000 second-feet; minimum discharge, 42 second-feet Dec. 15-17, 1915.

Remarks.- Records excellent except those for periods of ice effect, which are fair.

Divisions above station for irrigation.

Cooperation.- Records collected in cooperation with Bureau of Reclamation.

Rating table, water-year 1939-40, except period of ice effect (gage height, in feet, and discharge, in second-feet)

(Shifting-control method used Mar. 26 to Apr. 23)

1.6	52	2.6	310
1.7	70	2.8	395
1.8	90	3.1	545
2.0	134	3.6	780
2.2	182	4.0	1,130
2.4	240	4.3	1,390

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	119	119	105	90	72	88	165	72	1,180	286	151	80
2	125	119	105	92	74	84	158	70	1,190	300	148	80
3	127	116	105	88	76	86	144	70	1,260	268	141	84
4	123	116	120	84	74	88	130	68	1,220	250	134	97
5	121	110	135	*81	72	86	127	65	1,190	247	130	90
6	119	105	*160	78	72	82	125	63	1,170	228	130	80
7	116	105	150	76	74	80	125	63	1,080	216	127	78
8	112	108	145	74	72	82	123	65	962	204	123	78
9	119	108	150	76	70	80	121	66	864	190	119	82
10	116	103	150	78	72	78	114	72	715	188	116	82
11	116	103	155	76	70	74	112	80	685	193	112	76
12	114	103	145	72	66	70	108	92	622	190	105	72
13	112	103	135	70	64	68	105	175	578	180	108	74
14	116	105	125	70	66	*57	110	350	572	170	108	80
15	114	105	130	72	68	70	112	515	611	168	114	76
16	114	100	130	72	66	74	127	578	685	185	112	74
17	112	105	125	74	64	82	141	600	754	202	108	70
18	112	105	125	72	62	80	136	606	820	199	103	72
19	112	100	120	68	64	84	127	594	787	188	101	74
20	112	100	110	64	62	88	112	584	600	188	101	76
21	112	105	105	62	60	94	94	556	578	182	90	72
22	114	100	100	62	60	92	84	510	567	170	84	68
23	116	98	84	62	100	76	100	450	550	163	78	66
24	121	105	96	66	66	110	78	515	525	165	80	68
25	125	105	92	68	70	120	82	578	470	160	84	70
26	121	100	88	72	76	144	84	715	420	160	92	72
27	121	100	86	74	82	151	88	906	346	158	97	74
28	121	100	84	76	84	153	80	1,120	286	175	92	110
29	121	96	82	78	90	141	76	1,310	244	153	88	121
30	119	96	84	78	-	141	74	1,280	231	144	84	119
31	116	-	88	74	-	158	-	1,220	-	148	80	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						3,638	127	112	117	7,220		
November.....						3,150	119	96	105	6,250		
December.....						3,628	160	82	117	7,200		
Calendar year 1939.....						109,483	1,440	82	300	217,200		
January.....						2,301	92	62	74.F	4,560		
February.....						2,030	90	60	70.C	4,030		
March.....						2,995	158	67	96.E	5,940		
April.....						3,338	165	74	111	6,620		
May.....						13,988	1,310	63	451	27,740		
June.....						21,771	1,260	231	726	43,180		
July.....						6,018	300	144	194	11,940		
August.....						3,340	151	78	108	6,620		
September.....						2,415	121	66	80.E	4,790		
Water year 1939-40.....						68,612	1,310	60	187	136,100		

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 16-23, Nov. 25 to Mar. 25.

Willow Creek near Cora, Wyo.

Location.- Water-stage recorder, lat. 43°00', long. 109°56', in sec. 14, T. 35 N., R. 110 W., a quarter of a mile downstream from forks and 4½ miles northeast of Cora.

Drainage area.- 41.8 square miles.

Records available.- October 1938 to September 1940.

Extremes.- Maximum discharge during year, 49 second-feet Apr. 17 (gauge height, 6.51 feet), from rating curve extended above 30 second-feet; minimum daily, 0.8 second-foot Aug. 4, 5, 10-19, Sept. 1-3, 16, 17, 26.

1938-40: Maximum discharge, 68 second-feet Mar. 31, 1939 (gauge height, 6.79 feet), from rating curve extended above 30 second-feet; minimum daily, that of Aug. 4, 5, 10-19, Sept. 1-3, 16, 17, 26, 1940.

Remarks.- Records good except those for periods of ice effect, which are fair. Several small diversions above station for irrigation.

Cooperation.- Records collected in cooperation with Bureau of Reclamation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.7	4.5	3.5	4.3	3.3	4.4	11	8.6	7.3	1.4	0.9	0.8
2	5.6	4.6	3.2	4.3	3.4	4.2	10	6.8	6.2	2.0	1.0	.8
3	5.9	4.3	3.3	4.1	3.5	4.2	8.9	3.2	5.3	2.2	1.0	.8
4	5.6	4.6	3.3	4.1	3.4	4.4	8.6	3.2	4.7	3.5	.8	.9
5	4.9	4.1	3.5	3.7	3.3	4.6	10	3.2	9.6	3.0	.8	1.0
6	4.9	3.9	3.5	*3.6	3.3	4.4	13	3.0	6.5	2.7	.9	1.0
7	5.1	4.1	*3.5	3.5	3.3	4.2	12	2.8	3.7	2.4	.9	.9
8	5.1	4.1	3.5	3.1	3.2	4.4	10	2.7	3.9	2.2	.9	.9
9	4.9	4.1	3.5	2.9	3.4	4.2	11	2.2	2.6	2.4	.9	1.0
10	4.7	3.5	3.7	3.0	3.5	4.2	10	2.4	2.0	2.2	.8	1.0
11	4.7	3.5	3.6	2.9	3.4	4.0	10	3.3	2.0	2.4	.8	.9
12	3.9	3.7	3.5	2.7	3.3	4.0	9.3	4.7	2.2	2.2	.8	.9
13	3.2	3.7	3.4	2.6	3.2	3.8	16	6.6	1.7	2.1	.8	.9
14	3.2	3.5	3.5	2.7	3.3	4.0	15	9.6	2.0	2.0	.8	1.0
15	3.0	3.5	3.5	2.7	3.4	4.2	13	8.9	1.8	1.8	.8	.9
16	3.0	3.5	3.4	2.7	3.3	4.2	19	13	1.5	2.6	.8	.8
17	3.0	3.7	3.6	2.7	3.2	4.0	27	11	1.3	3.0	.8	.8
18	3.0	3.9	3.5	2.8	3.2	4.4	25	8.9	1.2	2.8	.8	.9
19	2.8	4.6	3.4	2.7	3.3	4.4	19	9.3	1.2	2.4	.8	1.0
20	3.0	4.6	3.4	2.6	3.2	4.6	17	7.5	1.0	2.2	.9	1.0
21	3.0	4.5	3.4	2.5	3.1	5.4	14	6.2	.9	2.2	.9	.9
22	3.0	4.3	3.5	2.5	3.1	6.2	11	5.1	.9	2.0	1.2	.9
23	3.2	4.3	3.7	2.6	3.3	8.0	10	4.7	.9	2.0	1.2	.9
24	3.0	4.3	3.7	2.7	3.4	9.0	12	5.6	.9	2.0	1.3	.9
25	3.0	4.3	3.6	2.8	3.6	10	12	6.2	1.2	2.0	1.5	.9
26	3.0	4.3	3.5	3.0	3.8	10	14	11	1.0	2.0	2.1	.8
27	3.0	4.1	3.5	3.2	4.0	12	12	13	.9	1.8	2.0	.9
28	4.1	3.7	3.6	3.4	4.2	11	10	9.6	1.2	1.4	1.3	2.1
29	4.5	3.5	3.6	3.5	4.4	10	10	8.2	1.3	1.2	.9	2.2
30	4.3	3.5	3.6	3.4	-	11	8.9	6.8	1.4	1.2	.9	1.8
31	4.5	-	3.9	3.3	-	12	-	7.9	-	1.0	.9	-
Month						Second-foot-days	Maximum	Minimum	Mean		Run-off in acre-feet	
October.....						122.8	5.9	2.8	3.96		244	
November.....						120.4	4.5	3.5	4.01		239	
December.....						108.9	3.9	3.2	3.51		216	
Calendar year 1939.....						2,497.6	44	2.3	6.94		4,960	
January.....						96.4	4.3	2.5	3.11		191	
February.....						99.3	4.4	3.1	3.42		197	
March.....						189.4	12	3.8	6.11		376	
April.....						388.7	27	8.6	13.0		771	
May.....						208.3	13	2.2	6.72		413	
June.....						78.3	9.6	.9	2.51		155	
July.....						66.3	3.5	1.0	2.14		132	
August.....						31.2	2.1	.8	1.01		62	
September.....						30.5	2.2	.8	1.02		60	
Water year 1939-40						1,540.6	27	.8	4.21		3,060	

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Dec. 2-31, Jan. 7 to Apr. 7.

Lake Creek near Cora, Wyo.

Location.- Water-stage recorder, lat. 43°00', long. 109°54', in sec. 19, T. 35 N., R. 109 W., just downstream from Willow Lake and 5 miles northeast of Cora.

Drainage area.- 31.6 square miles.

Records available.- October 1938 to September 1940.

Extremes.- Maximum discharge during year, 84 second-feet June 24; maximum gage height, 7.25 feet June 21; minimum daily discharge, 0.1 second-foot Nov. 11 to Dec. 7, Dec. 13-28.
1938-40: Maximum discharge, 95 second-feet June 29, 1939 (gage height, 7.30 feet); minimum daily, that of Nov. 11 to Dec. 7, Dec. 13-28, 1939.

Remarks.- Records fair. Flow partly regulated for irrigation by Willow Lake (capacity, 15,000 acre-feet). No diversions above station.

Cooperation.- Records collected in cooperation with Bureau of Reclamation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.5	0.3	0.1				0.6	16	66	76	1.2	0.5
2	3.2	.3	.1				.6	34	67	74	1.0	.5
3	2.9	.3	.1				.6	34	68	73	1.0	.5
4	2.7	.2	.1				.6	34	67	72	1.0	.5
5	2.6	.2	.1				.6	34	66	72	1.1	.5
6	2.5	.2	.1				.6	40	61	72	1.1	.5
7	2.4	.2	.1				.6	44	59	71	1.1	.5
8	2.2	.2	.2	(*)			.7	44	57	69	1.0	.5
9	2.1	.2	.2				.7	48	56	69	1.0	.5
10	2.1	.2	.2				.7	58	56	67	1.0	.5
11	1.9	.1	.2				.8	59	55	65	1.0	.5
12	1.6	.1	.2				.8	62	54	62	1.0	.5
13	1.4	.1	.1				.8	60	54	60	1.0	.5
14	1.2	.1	.1				.9	58	54	60	1.0	.5
15	1.0	.1	.1				1.2	61	54	70	.9	.5
16	.9	.1	.1				1.6	61	54	80	.8	.5
17	.8	.1	.1				1.6	61	56	77	.8	.6
18	.8	.1	.1				1.5	64	75	74	.8	.6
19	.7	.1	.1				1.6	65	66	74	.8	.6
20	.6	.1	.1				1.6	65	75	72	.7	.6
21	.6	.1	.1				1.5	64	83	69	.7	.6
22	.6	.1	.1				1.4	65	83	67	.7	1.0
23	.6	.1	.1				1.4	64	82	67	.7	5.6
24	.6	.1	.1				1.4	63	83	69	.7	5.8
25	.5	.1	.1				1.4	64	82	66	.7	5.8
26	.5	.1	.1				1.6	65	81	59	.6	5.8
27	.4	.1	.1				1.6	67	90	26	.6	5.8
28	.4	.1	.1				1.6	67	78	1.7	.6	3.8
29	.4	.1	.2				1.6	67	77	1.2	.6	1.2
30	.3	.1	.2				1.6	66	76	1.0	.6	.8
31	.3	-	.2				-	66	-	1.2	.6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	42.3	3.5	0.3	1.36	84
November.....	4.3	.3	.1	.14	5.5
December.....	3.9	.2	.1	.13	7.7
Calendar year 1939.....	7,281.1	91	.1	19.9	14,440
January.....	4.65	-	-	.15	9.2
February.....	5.8	-	-	.20	12
March.....	10.85	-	-	.35	22
April.....	33.8	1.6	.6	1.13	67
May.....	1,719	67	16	55.5	3,410
June.....	2,013	83	54	67.1	3,990
July.....	1,837.1	80	1.0	59.3	3,640
August.....	26.4	1.2	.6	.85	52
September.....	46.6	5.8	.5	1.55	92
Water year 1939-40.....	5,747.70	83	-	15.7	11,390

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Dec. 4 to Apr. 11.

Duck Creek at Cora, Wyo.

Location.- Water-stage recorder, lat. 42°56', long. 110°00', in sec. 4, T. 34 N., R. 110 W., three-quarters of a mile west of Cora.

Drainage area.- 27.0 square miles.

Records available.- November 1938 to September 1940.

Extremes.- Maximum discharge during year, 13 second-feet Apr. 17 (gage height, 2.14 feet); minimum daily, 4.8 second-feet Mar. 10-13.
1938-40: Maximum discharge, 65 second-feet Mar. 31 (gage height, 3.07 feet), from rating curve extended above 20 second-feet; minimum daily, that of Mar. 10-13, 1940.

Remarks.- Records good except those for periods of ice-effect or no gage-height record, which are fair. Flow is mainly return water from irrigated lands.

Cooperation.- Records collected in cooperation with Bureau of Reclamation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.4	8.2	7.4	6.8	6.3	5.4	6.1	5.5	5.0	6.0	7.2	7.1
2	8.9	8.1	7.6	6.8	6.4	5.3	6.2	5.6	5.0	6.0	7.1	7.0
3	8.9	8.1	7.5	6.8	6.4	5.2	5.7	5.6	5.1	5.9	7.1	7.2
4	8.6	8.0	7.5	6.8	6.4	5.2	5.8	5.5	5.1	6.0	7.1	7.4
5	8.5	7.9	7.4	6.9	6.4	5.1	5.8	5.5	5.6	6.0	7.1	7.3
6	8.4	7.8	7.6	*6.8	6.4	5.0	5.9	5.5	5.2	6.0	7.1	7.1
7	8.4	8.0	7.6	6.7	*6.4	5.0	5.8	5.6	5.0	6.0	7.0	7.1
8	8.4	7.9	7.8	6.6	6.4	5.0	5.7	5.5	5.0	6.1	7.0	7.1
9	8.3	7.8	7.9	6.6	6.4	4.9	5.8	5.5	5.0	6.2	7.0	7.2
10	8.4	7.5	7.7	6.4	6.4	4.8	5.7	5.5	5.1	6.3	6.9	7.1
11	8.4	7.6	7.5	6.2	6.3	4.8	5.6	5.6	5.1	6.4	6.9	7.1
12	8.4	7.6	7.1	6.1	6.2	4.8	5.8	5.6	5.0	6.4	7.0	7.1
13	8.3	7.6	6.9	6.0	6.2	4.8	6.2	5.8	5.1	6.5	7.0	7.2
14	8.2	7.6	6.8	6.0	6.2	4.9	5.9	5.4	5.2	6.5	7.0	7.5
15	8.3	7.7	6.7	6.0	6.2	5.0	6.2	5.3	5.2	6.6	7.0	7.1
16	8.3	7.6	6.7	6.0	6.0	5.0	6.7	5.3	5.3	7.3	7.0	7.0
17	8.5	7.2	6.6	5.8	5.8	5.0	6.6	5.3	5.4	7.6	7.0	7.0
18	8.5	7.1	6.4	5.8	5.8	5.0	6.0	5.3	5.5	7.5	7.0	7.5
19	8.6	7.3	6.3	5.8	5.8	5.0	5.8	5.3	5.5	7.4	7.0	7.3
20	8.8	7.5	6.3	5.7	5.7	5.1	5.8	5.4	5.5	7.2	7.2	7.1
21	8.6	7.5	6.3	5.6	5.6	5.2	5.6	5.4	5.7	7.2	7.3	7.0
22	8.4	7.5	6.3	5.6	5.6	5.2	5.6	5.4	5.7	7.3	7.3	7.0
23	8.4	7.5	6.4	5.6	5.6	5.5	5.7	5.4	5.7	7.1	7.2	7.0
24	8.3	7.5	6.4	5.8	5.6	5.6	5.9	5.4	5.6	7.1	7.4	7.2
25	8.3	7.5	6.4	6.0	5.5	5.6	5.8	5.3	5.6	7.1	7.5	7.2
26	8.2	7.3	6.4	6.0	5.5	5.6	5.8	5.4	5.6	7.1	7.8	7.3
27	8.2	7.5	6.5	6.0	5.4	5.8	5.7	5.4	5.6	7.1	7.6	7.2
28	8.3	7.2	6.5	6.1	5.4	5.5	5.7	5.4	5.6	7.1	87.4	9.0
29	8.3	7.1	6.6	6.2	5.4	5.5	5.6	5.2	5.7	7.1	87.2	9.1
30	8.2	7.1	6.7	6.2	-	5.9	5.6	5.0	5.8	7.1	7.1	8.1
31	8.2	-	6.8	6.2	-	6.2	-	5.0	-	7.1	7.1	-
Month	Second-foot-days					Maximum		Minimum		Mean		Run-off in acre-feet
October.....	260.9					8.9		8.2		8.42		517
November.....	227.8					8.2		7.1		7.59		452
December.....	214.6					7.9		6.3		6.92		426
Calendar year 1939.....	2,577.5					27		4.9		7.06		5,110
January.....	191.9					6.9		5.6		6.19		381
February.....	173.7					6.4		5.4		5.99		345
March.....	161.9					6.2		4.8		5.22		321
April.....	176.1					6.7		5.6		5.87		349
May.....	167.9					5.8		5.0		5.42		333
June.....	160.5					5.8		5.0		5.35		318
July.....	208.3					7.6		5.9		6.72		413
August.....	221.6					7.8		6.9		7.15		440
September.....	219.6					9.1		7.0		7.32		436
Water year 1939-40.....	2,384.8					9.1		4.8		6.52		4,730

*Winter discharge measurement made on this day.

a No gage-height record; discharge interpolated.

Note.- Stage-discharge relation affected by ice Jan. 6 to Mar. 14.

Pine Creek at Pinedale, Wyo.

Location.- Water-stage recorder, lat. 42°52', long. 109°52', in sec. 33, T. 34 N., R. 109 W., at Pinedale, 3 miles upstream from mouth. Datum of gage is 7,164.3 feet above mean sea level (general adjustment of 1912).

Drainage area.- 118 square miles.

Records available.- April to October 1904, May 1915 to September 1940.

Average discharge.- 25 years (1915-40), 133 second-feet.

Extremes.- Maximum discharge during year, 782 second-feet June 3 (gage height, 3.20 feet); minimum daily, 4.4 second-feet Jan. 13, 14.

1904, 1915-40: Maximum discharge, 2,310 second-feet June 17, 1918 (gage height, 5.0 feet); minimum, 2 second-feet Apr. 1-26, May 6-8, 1931.

Remarks.- Records good above 100 second-feet and fair below. Diversions above station for irrigation. Flow regulated by Fremont Lake.

Cooperation.- Records collected in cooperation with Bureau of Reclamation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	24	36	16	17	*20	15	8.4	717	74	37	21
2	20	24	34	14	19	19	15	8.7	760	62	29	22
3	20	24	32	9.4	21	20	15	8.1	760	58	25	23
4	19	24	32	8.1	20	19	14	6.6	696	62	23	16
5	19	23	31	7.5	19	18	15	6.6	656	56	20	9.0
6	18	23	33	7.5	*20	16	15	7.2	583	52	19	8.4
7	16	24	29	11	21	16	14	7.8	493	47	18	8.7
8	19	23	28	9.8	20	16	14	8.1	415	42	16	9.0
9	24	19	27	5.2	20	16	15	7.8	358	42	16	9.4
10	24	17	26	5.2	21	16	14	7.5	308	55	14	9.8
11	24	16	26	6.3	20	15	12	8.7	278	53	14	9.8
12	23	16	25	4.6	18	14	12	10	264	50	20	10
13	22	16	24	4.4	17	14	11	13	275	46	41	11
14	22	17	24	4.4	18	15	11	15	318	45	29	11
15	20	18	23	4.8	20	14	11	16	383	42	27	11
16	19	17	23	5.8	19	15	11	17	435	46	26	11
17	19	19	23	5.2	17	14	9.8	12	493	44	25	10
18	19	24	22	5.4	18	14	8.1	17	495	45	24	9.8
19	19	23	22	5.2	19	13	8.1	18	351	45	24	9.4
20	19	22	22	5.0	18	13	8.1	25	275	52	24	9.4
21	20	20	21	5.0	17	13	8.4	34	302	46	24	9.0
22	19	15	21	5.5	17	13	8.7	36	311	42	22	9.0
23	21	24	20	6.0	18	13	9.8	68	302	52	24	8.7
24	34	25	21	7.0	19	13	11	190	278	56	29	8.7
25	28	32	20	9.0	20	12	14	205	241	47	29	8.7
26	28	31	17	11	21	13	9.0	264	207	44	28	8.7
27	34	15	13	12	14	14	8.7	469	150	55	31	8.7
28	26	37	14	16	23	13	8.4	596	97	60	29	13
29	25	39	14	19	22	14	8.7	676	69	37	28	14
30	24	37	15	18	-	14	8.4	662	68	36	25	13
31	24	-	15	18	-	14	-	690	-	39	23	-
Month						Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet	
October.....						681		34	16	22.0	1,350	
November.....						707		39	15	23.6	1,400	
December.....						735		36	14	23.7	1,460	
Calendar year 1939.....						35,326		435	14	96.8	70,070	
January.....						272.3		19	4.4	8.78	540	
February.....						561		23	17	19.3	1,110	
March.....						463		20	12	14.9	918	
April.....						343.2		15	8.1	11.4	681	
May.....						4,118.5		690	6.6	133	8,170	
June.....						11,336		760	68	378	22,480	
July.....						1,532		74	36	49.4	3,040	
August.....						763		41	14	24.6	1,510	
September.....						340.2		23	8.4	11.3	675	
Water year 1939-40.....						21,852.2		760	4.4	59.7	43,330	

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Dec. 12, 13, Dec. 18 to Jan. 1, Jan. 20 to Mar. 1.

Pole Creek below Little Half Moon Lake, near Pinedale, Wyo.

Location.- Water-stage recorder, lat. 42°53', long. 109°43', in sec. 26, T. 34 N., R. 108 W., $1\frac{1}{2}$ miles downstream from Little Half Moon Lake and 7 miles east of Pinedale.

Drainage area.- 87.5 square miles.

Records available.- October 1938 to September 1940.

Extremes.- Maximum discharge during year, 555 second-feet May 28 (gage height, 5.36 feet); minimum daily, 3.7 second-feet Aug. 30 to Sept. 1, but probably less during period of ice effect.

1938-40: Maximum discharge, that of May 28, 1940; minimum daily, that of Aug. 30 to Sept. 1, 1940, but probably less during period of ice effect.

Remarks.- Records excellent except those for period of ice effect, which are fair. Several small diversions above station for irrigation.

Cooperation.- Records collected in cooperation with Bureau of Reclamation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.4	7.1	(*)	(*)		6.5	8.6	22	426	109	22	3.7
2	7.1	7.1				6	8.6	23	426	100	20	4.4
3	7.1	7.1				5.5	8.6	24	432	94	19	5.1
4	7.1	7.1				5	8.6	26	415	91	17	5.8
5	6.4	7.1				5	8.6	30	388	86	16	6.5
6	6.4	7.1				5	8.6	32	356	80	14	6.5
7	6.4	7				5.5	8.6	37	333	76	13	6.5
8	7.1	7				6.5	8.6	44	301	72	12	5.8
9	7.1	7				6.5	8.6	52	272	72	11	5.8
10	7.1	5.5				6	8.6	60	241	68	10	5.8
11	7.1	5.5	4.0	4.5	5.0	6	8.6	80	214	62	9.3	5.8
12	7.1	5.5				5	8.6	136	193	60	8.6	5.1
13	7.1	6				5.5	8.6	274	185	57	8.6	5.8
14	7.1	6				6	8.6	404	196	53	7.9	5.8
15	7.1	6				7	10	454	229	51	7.2	4.4
16	7.8	5				8	12	460	267	51	7.2	4.4
17	7.8	5				8	14	465	286	48	7.2	4.4
18	7.8	5				7.5	13	462	291	45	7.2	4.4
19	7.8	5				7	10	457	282	42	6.5	4.4
20	7.8	5				7	11	446	265	40	5.8	5.1
21	7.8	5	4.0	4.5	5.0	7	11	434	248	38	5.1	5.1
22	7.1	6				7	13	406	234	36	5.1	4.4
23	7.1	6				7	14	367	219	36	5.1	4.4
24	7.1	6				7	15	346	205	36	4.4	4.4
25	7.1	6				8	16	359	191	33	4.4	4.4
26	7.8	6				7.9	17	409	174	30	5.1	4.4
27	7.1	6				8.6	18	490	156	28	5.1	4.4
28	7.1	6				7.9	19	546	138	27	4.4	8.6
29	8.5	5.5				7.9	20	544	126	27	4.4	9.3
30	6.4	6				7.9	21	507	114	26	3.7	8.6
31	6.4	-	7.9	-	460	-	24	3.7	-			
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						222.2	8.5	6.4	7.17	441		
November.....						181.6	7.1	5	6.05	360		
December.....						124.0	-	-	4.0	246		
Calendar year 1939.....						26,679.0	495	-	73.1	52,940		
January.....						139.5	-	-	4.5	277		
February.....						145.0	-	-	5.0	288		
March.....						209.6	8.6	5	6.73	414		
April.....						354.4	21	8.6	11.8	703		
May.....						8,856	546	22	266	17,570		
June.....						7,803	432	114	260	15,490		
July.....						1,698	109	24	54.8	3,370		
August.....						280.0	22	3.7	9.03	555		
September.....						163.5	9.3	3.7	5.45	324		
Water year 1939-40.....						20,175.8	546	-	55.1	40,030		

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 7 to Mar. 25.

Fall Creek near Pinedale, Wyo.

Location.- Water-stage recorder, lat. 42°51', long. 109°43', in sec. 2, T. 33 N., R. 108 W., at McIntosh ranch, half a mile downstream from Meadow Creek, 3 miles downstream from Burnt Lake, and 8 miles east of Pinedale.

Drainage area.- 37.2 square miles.

Records available.- October 1938 to September 1940. May 1904 to October 1905, at site 1½ miles downstream (published as Fall Creek at Fayette); records equivalent.

Extremes.- Maximum discharge during year, 180 second-feet May 17 (gage height, 4.79 feet); minimum, 0.3 second-foot Dec. 4 (discharge measurement).

1904-5, 1938-40: Maximum discharge, 480 second-feet June 19-21, 1904 (gage height, 3.00 feet, site and datum then in use), from rating curve extended above 270 second-feet; minimum, that of Dec. 4, 1939.

Remarks.- Records good May 8 to Sept. 30; others poor. Practically no diversions above station.

Cooperation.- Records collected in cooperation with Bureau of Reclamation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.4							2.0	142	32	7.9	1.8
2	2.0							1.9	140	30	7	1.8
3	1.9							1.8	133	29	5.9	1.8
4	1.7		(+)					1.7	119	28	4.8	1.8
5	1.6			(+)				1.7	106	30	4.3	1.7
6	11.5							1.8	99	36	3.9	1.7
7	1.4							2.1	91	33	3.3	1.7
8	1.4							2.7	82	31	2.7	1.5
9	1.2							3.7	74	29	2.4	1.7
10	1.0							4.8	68	27	2.4	1.7
11	.9						(+)	8.3	63	25	2.4	1.7
12	.9							14	62	26	2.4	1.7
13	.9							42	66	37	2.1	1.7
14	1.9							113	70	34	2.1	1.7
15	.9							153	73	32	2.1	1.5
16	.8	0.4	0.45	0.6	0.95	1.6	1.9	168	72	30	2.0	1.5
17	.7							177	68	27	2.0	1.5
18	.6							174	63	26	2.0	1.5
19	.6							167	58	24	2.0	1.5
20	.6							160	53	22	2.0	1.5
21	.6							147	48	21	1.9	1.5
22	.5							129	44	19	1.9	1.4
23	1.5						(+)	121	40	18	1.9	1.4
24	.5							124	36	16	1.9	1.4
25	.4							142	33	15	1.9	2.7
26	.4					(+)		159	30	13	1.8	6.7
27	.4							171	27	13	1.8	6.7
28	.4							171	28	13	1.8	10
29	.4							167	40	12	1.8	9.9
30	.4							153	36	10	1.8	9.5
31	.4	-			-		-	143	-	9.5	1.8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	28.8	2.4	0.4	0.93	57
November.....	12.0	-	-	.4	24
December.....	14.0	-	-	.45	28
Calendar year 1939.....	10,417.0	194	-	28.5	20,650
January.....	18.6	-	-	.6	37
February.....	27.6	-	-	.95	55
March.....	49.6	-	-	1.6	98
April.....	57.0	-	-	1.9	113
May.....	2,827.5	177	1.7	91.2	5,610
June.....	2,063	142	27	68.8	4,090
July.....	747.5	37	9.5	24.1	1,480
August.....	86.0	7.9	1.8	2.77	171
September.....	84.2	10	1.4	2.81	167
Water year 1939-40.....	6,015.8	177	-	16.4	11,930

+Discharge measurement made on this day.

Note.- No gage-height record Oct. 1 to May 7 (stage-discharge relation affected by ice during part of period); discharge computed on basis of nine discharge measurements and weather records.

Boulder Creek below. Boulder Lake, near Boulder, Wyo.

Location.- Water-stage recorder, lat. 42°50', long. 109°43', in sec. 14, T. 33 N., R. 108 W., 1 mile downstream from outlet of Boulder Lake and 5 miles north of Boulder.

Drainage area.- 130 square miles.

Records available.- October 1938 to September 1940.

Extremes.- Maximum discharge during year, 1,070 second-feet May 28 (gage height, 4.21 feet); no flow Nov. 28 to Apr. 15.

1938-40: Maximum discharge, 1,200 second-feet (caused by Boulder Lake dam failure) Nov. 25, 1938 (gage height, 4.54 feet); no flow Nov. 28, 1939 to Apr. 15, 1940.

Remarks.- Records excellent except those below 10 second-feet, which are fair. Flow slightly regulated by Boulder Lake (capacity, 11,000 acre-feet). No diversions above station.

Cooperation.- Records collected in cooperation with Bureau of Reclamation.

Rating table, water year 1939-40 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Aug. 17 to Sept. 12, Sept. 18)

0.3	0	1.1	4.9	1.5	24	1.9	70	3.0	410
.8	.5	1.2	8.0	1.6	32	2.2	128	3.5	660
.9	1.1	1.3	12	1.7	42	2.4	174	4.2	1,060
1.0	2.6	1.4	17	1.8	55	2.6	236		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	4.7					0	60	803	219	100	1.6
2	14	.5					0	64	776	229	88	1.4
3	14	.4					0	72	726	219	77	1.6
4	14	.3					0	75	645	209	67	1.2
5	14	.2					0	84	570	205	61	1.4
6	14	.2					0	90	560	219	52	1.1
7	14	.1					0	94	485	226	47	1.0
8	14	.1					0	98	360	226	41	1.0
9	14	.1					0	102	354	226	37	1.0
10	14	.1					0	122	324	229	34	.8
11	14	.1					0	146	280	236	30	.5
12	14	.2					0	185	248	229	27	.5
13	14	.3					0	233	285	222	24	6.8
14	14	.3					0	289	294	222	21	12
15	13	.4					0	324	260	226	18	12
16	12	*.4					.4	445	272	222	9.6	12
17	12	.4					.5	698	285	219	2.3	6.5
18	12	.3					.5	737	276	209	2.0	2.2
19	12	.3					.5	742	272	202	1.7	21
20	12	.3					.5	820	268	205	1.7	54
21	12	.3					4.7	754	256	209	1.6	54
22	12	.2					25	640	233	202	1.4	51
23	12	.2					26	620	236	205	1.4	38
24	11	.2					29	710	236	196	1.4	55
25	11	.2					41	820	229	180	1.4	52
26	10	.1					66	910	233	169	2.3	50
27	11	.1					66	1,010	233	157	2.2	48
28	12	0					62	1,060	240	146	2	54
29	12	0					62	1,030	236	132	1.7	54
30	11	0					60	922	229	122	1.7	54
31	8.4	-					-	842	-	112	1.7	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						391.4	14	8.4	12.6	776		
November.....						11.0	4.7	0	.37	22		
December.....						0	0	0	0	0		
Calendar year 1939.....						50,251.4	1,050	0	138	99,680		
January.....						0	0	0	0	0		
February.....						0	0	0	0	0		
March.....						0	0	0	0	0		
April.....						444.1	66	0	14.8	881		
May.....						14,798	1,060	60	477	29,350		
June.....						10,684	803	229	356	21,190		
July.....						6,229	236	112	201	12,360		
August.....						750.1	100	1.4	24.5	1,510		
September.....						649.9	55	.5	21.7	1,290		
Water year 1939-40.....						33,967.5	1,060	0	92.8	67,580		

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 9 to Apr. 10.

South Piney Creek near Big Piney, Wyo.

Location.- Water-stage recorder, lat. 42°31', long. 110°19', in sec. 9, T. 29 N., R. 113 W., 200 feet downstream from Beaver Creek and 10 miles southwest of Big Piney.

Drainage area.- 117 square miles.

Records available.- October 1938 to September 1940.

Extremes.- Maximum discharge during year, 76 second-feet May 29 (gage height, 5.89 feet); minimum daily, 8.1 second-feet Aug. 4, 13, 17, 18.
1938-40: Maximum discharge, 321 second-feet May 31, 1939 (gage height, 7.56 feet), from rating curve extended above 200 second-feet; minimum daily, that of Aug. 4, 13, 17, 18, 1940.

Remarks.- Records excellent except those for Feb. 28 to Mar. 10, Aug. 1 to Sept. 30, which are good and those for periods of ice effect or no gage-height record, which are fair. No diversions above station.

Cooperation.- Records collected in cooperation with Bureau of Reclamation.

Rating tables, water year 1939-40, except period of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Feb. 28 to Mar. 8, Aug. 11 to Sept. 30)

Oct. 1 to Jan. 31			Feb. 1 to Sept. 30		
5.3	20		4.9	6	5.6 48
5.4	26		5.0	9	5.8 66
5.5	33		5.3	27	

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	26	25	21	18	21	24	30	27	46	30	9.6	9.6
2	28	25	19	19	21	24	29	30	48	33	9.0	9.6
3	29	24	19	19	21	22	24	31	53	27	8.7	9.6
4	28	24	22	19	22	24	24	31	54	25	8.1	10
5	27	24	22	18	21	22	28	28	63	24	8.4	11
6	26	22	20	18	22	26	23	28	59	22	9.6	9.6
7	25	24	21	17	22	26	22	26	54	21	9.6	9
8	26	23	21	16	20	24	22	26	51	20	10	9.6
9	25	24	21	17	21	28	22	25	51	19	8.7	11
10	25	21	21	18	22	25	22	24	49	18	11	13
11	25	22	22	19	21	26	22	26	47	18	8.7	13
12	25	23	20	18	21	24	20	29	44	19	8.4	12
13	25	22	19	*17	19	26	22	37	42	19	8.1	13
14	26	23	19	16	20	27	22	37	42	15	8.7	11
15	25	22	19	16	22	28	23	43	43	15	8.7	10
16	26	21	20	17	21	25	26	35	43	17	8.4	10
17	26	22	21	18	21	26	23	34	44	23	8.1	9.6
18	25	22	20	17	21	24	22	34	44	21	8.1	11
19	25	21	19	16	21	26	24	33	43	a20	8.7	12
20	25	20	18	15	21	25	27	34	38	a18	9.6	14
21	26	20	17	16	20	26	30	36	34	a14	11	16
22	25	22	16	17	21	28	31	36	32	a12	11	14
23	25	21	16	17	21	30	30	35	30	a12	10	14
24	25	20	16	18	22	29	35	35	30	a11	11	13
25	25	21	15	19	22	30	38	35	28	a11	15	13
26	25	22	14	20	23	31	36	35	26	11	15	15
27	25	20	15	21	24	30	35	40	23	11	13	14
28	25	20	15	22	25	28	30	44	23	11	11	19
29	27	20	16	22	25	26	30	59	23	11	9.6	23
30	25	20	17	21	28	28	27	49	22	11	9.6	23
31	25	-	18	21	-	27	-	46	-	11	9.6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	796	29	25	25.7	1,580
November.....	660	25	20	22.0	1,310
December.....	579	22	14	18.7	1,150
Calendar year 1939.....	22,046	277	14	60.4	43,730
January.....	562	22	15	18.1	1,110
February.....	624	25	19	21.5	1,240
March.....	815	31	22	26.3	1,620
April.....	799	38	20	26.6	1,580
May.....	1,060	59	24	34.2	2,100
June.....	1,229	63	22	41.0	2,440
July.....	549	33	11	17.7	1,090
August.....	304	15	8.1	9.01	603
September.....	381.6	23	9.0	12.7	757
Water year 1939-40.....	8,358.6	63	8.1	22.8	16,580

*Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of records for Middle Piney Creek below South Fork, near Big Piney, Wyo.

Note.- Stage-discharge relation affected by ice Dec. 2 to Feb. 27.

North Piney Creek near Mason, Wyo.

Location.- Water-stage recorder, lat. $32^{\circ}40'$, long. $110^{\circ}21'$, in sec. 19, T. 31 N., R. 113 W., 4 miles west of Mason.

Drainage area.- 58 square miles.

Records available.- May 1915 to October 1916, October 1931 to September 1940.

Extremes.- Maximum discharge during year, 218 second-feet June 2 (gage height, 2.69 feet); minimum daily, 7 second-feet Feb. 20, 21.
1915-16, 1931-40: Maximum discharge, 613 second-feet June 19, 1916 (gage height, 3.93 feet), from rating curve extended above 450 second-feet; minimum not determined, probably occurred during winter.

Remarks.- Records excellent except those for period of no gage-height record, which are fair, and those for period of ice effect, which are poor. Several small diversions above station.

Cooperation.- Records collected in cooperation with Bureau of Reclamation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	17	15	13	10	10	11	13	200	61	17	15
2	18	17	*14	14	11	10	10	15	206	60	16	14
3	19	17	14	13	12	9.5	10	17	187	56	16	14
4	18	17	15	12	12	10	10	22	160	52	16	15
5	17	14	15	11	11	9.5	10	23	159	49	16	15
6	17	15	14	10	10	9	9.8	23	133	43	15	14
7	19	17	13	9.5	11	8.5	8.6	23	121	42	15	14
8	20	15	14	11	10	9	9.6	25	122	41	20	14
9	19	16	13	12	9.5	8.5	10	29	112	39	23	14
10	19	18	14	13	9	9	9.8	34	101	40	23	14
11	19	19	15	12	8.5	8.5	10	41	96	42	22	14
12	19	19	14	*11	8	8.5	9.6	49	108	38	22	14
13	18	19	13	10	7.5	8	11	71	124	33	21	14
14	18	19	12	9.5	8	8.5	12	68	136	22	20	14
15	18	19	12	9.5	8.5	9	13	66	135	22	20	15
16	18	20	13	10	8	10	14	a90	127	28	19	15
17	18	22	13	11	7.5	11	13	84	122	30	18	15
18	18	18	12	11	8	10	13	a82	114	26	18	15
19	17	18	11	10	7.5	9.5	14	a78	105	23	18	15
20	17	17	11	9	7	10	15	83	98	21	19	16
21	17	18	10	9.5	7	10	15	77	92	20	22	15
22	17	17	9.5	10	7.5	9.5	14	69	84	18	18	14
23	17	16	10	10	8	10	14	72	76	16	17	14
24	17	17	10	9.5	8.5	10	14	88	68	15	17	14
25	17	17	9.5	10	9	11	16	104	62	16	20	14
26	17	17	9	11	9.5	11	14	127	62	16	20	15
27	16	16	9	11	10	12	14	141	61	15	17	15
28	17	16	9.5	12	10	12	13	153	62	16	16	18
29	17	15	10	13	11	11	13	159	62	19	16	20
30	17	16	11	12	-	10	13	160	59	19	15	18
31	17	-	12	11	-	11	-	182	-	18	15	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	549	20	16	17.7	1,090
November.....	518	22	14	17.3	1,030
December.....	376.5	15	9	12.1	747
Calendar year	-	-	-	-	-
January.....	340.5	14	9	11.0	675
February.....	264.5	12	7	9.12	525
March.....	303.5	12	8	9.79	602
April.....	363.4	16	8.6	12.1	721
May.....	2,258	182	13	72.8	4,480
June.....	3,354	206	59	112	6,650
July.....	956	61	15	30.8	1,900
August.....	567	23	15	18.3	1,120
September.....	447	20	14	14.9	897
Water year 1939-40.....	10,297.4	206	7	28.1	20,430

*Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of recorded range of stage and records for Horse Creek near Daniel, Wyo.

Note.- Stage-discharge relation affected by ice Dec. 1 to Apr. 3.

Middle Piney Creek below South Fork, near Big Piney, Wyo.

Location.- Water-stage recorder, lat. 42°36', long. 110°28', in sec. 7, T. 30 N., R. 114 W., 1 mile downstream from South Fork and 18 miles northwest of Big Piney.

Drainage area.- 34.3 square miles.

Records available.- July 1939 to September 1940.

Extremes.- Maximum discharge during period, 49 second-feet June 1 (gage height, 5.49 feet); minimum discharge observed, 1.7 second-feet Jan. 12 (discharge measurement), but probably less during period of ice effect.

Remarks.- Records good except those for period of ice effect, which are fair.

Cooperation.- Records collected in cooperation with Bureau of Reclamation.

Discharge, in second-feet, 1939-40

1939

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1										-	37	18
2										-	35	18
3										-	34	17
4										-	33	17
5										-	33	16
6										-	32	16
7										-	32	16
8										-	31	16
9										-	30	16
10										-	29	16
11										-	28	14
12										-	26	16
13										-	25	15
14										-	25	15
15										-	25	15
16										-	25	14
17										-	24	14
18										-	24	13
19										-	24	13
20										-	24	14
21										-	23	14
22										-	23	13
23										-	22	13
24										-	21	13
25										-	21	14
26										-	21	14
27										-	21	13
28										40	21	13
29										42	21	12
30										41	20	12
31										39	19	-

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UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

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Discharge, in second-feet, of Middle Piney Creek below South Fork, near Big Piney, Wyo.,
1939-40--Continued

1939-40

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	7.4	(*)				6.5	7.7	46	36	13	8.0
2	14	7.4					7	8.6	44	35	12	8.0
3	13	7.4					7	8.6	41	33	12	8.6
4	13	7.4					6.8	8.6	36	32	11	8.6
5	12	7.4					6.2	8.0	36	30	10	8.0
6	13	6.8	5.0	2.0	3.0	5.0	6.2	7.7	31	29	10	7.7
7	12	6.8					6.5	7.7	30	29	10	7.7
8	12	6.8					6.2	7.4	30	29	9.8	7.4
9	12	6.2					6.5	7.4	29	30	9.8	8.0
10	12	6.5					6.8	7.7	32	30	9.2	8.0
11	10	6.5					6.2	7.7	34	30	9.8	8.0
12	10	6.5					7.1	8.0	37	30	8.6	8.0
13	10	6.2					6.8	12	40	28	9.2	7.7
14	10	5.9					7.1	11	40	28	9.2	7.7
15	10	5.6					7.4	12	39	27	8.0	7.4
16	10	6	5.0	2.0	3.0	5.0	7.1	14	39	27	7.7	7.4
17	10	7.5					7.4	17	39	27	7.7	7.7
18	10	8					7.7	19	42	26	8.0	7.4
19	10	8.5					8.0	20	40	25	8.6	7.4
20	9.0	8.5					8.6	21	40	25	9.2	8.0
21	9.0	8.5					10	22	40	23	9.2	7.4
22	9.0	9					8.6	21	42	23	9.2	6.8
23	9.5	9.5					8.0	21	39	20	8.6	6.8
24	8.5	10					8.0	24	36	20	9.8	6.8
25	8.5	11					8.0	27	33	20	10	6.8
26	7.7	11					7.7	33	34	19	9.2	6.5
27	7.7	10					7.7	38	38	18	9.2	6.8
28	8.0	9.5					7.7	40	36	16	8.6	7.7
29	8.0	9					7.7	41	35	15	8.6	8.6
30	8.0	9					8.0	43	36	14	8.0	7.4
31	8.0	-					-	44	-	13	8.0	-

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 16 to Apr. 3

Monthly discharge, in second-feet, 1939-40

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
August 1939.....	809	37	19	26.1	1,600
September.....	439	18	12	14.6	871
Water year	-	-	-	-	-
October 1939	315.9	14	7.7	10.2	627
November.....	235.8	11	5.6	7.86	468
December.....	155.0	-	-	5.0	307
Calendar year	-	-	-	-	-
January 1940	62.0	-	-	2.0	123
February.....	87.0	-	-	3.0	173
March.....	155.0	-	-	5.0	307
April.....	220.5	10	6.2	7.35	437
May.....	575.1	44	7.4	18.6	1,140
June.....	1,114	46	29	37.1	2,210
July.....	787	36	13	25.4	1,580
August.....	291.2	13	7.7	9.39	578
September.....	228.3	8.6	6.5	7.61	463
Water year 1939-40	4,226.8	46	-	11.5	8,380

Fontenelle Creek near Fontenelle, Wyo.

Location.- Water-stage recorder, lat. 42°06', long. 110°13', in sec. 3, T. 24 N., R. 113 W., 6 miles west of Fontenelle.

Drainage area.- 224 square miles.

Records available.- May 1915 to September 1919, October 1931 to September 1940.

Extremes.- Maximum discharge during year, 66 second-feet May 19 (gage height, 1.38 feet); no flow June 27-30, Sept. 18-27.

1915-19, 1931-40: Maximum discharge observed, 922 second-feet Apr. 19, 1938 (gage height, 4.00 feet, site and datum then in use), from rating curve extended above 380 second-feet; no flow Aug. 1-5, Aug. 23 to Sept. 15, 1934, June 27-30, Sept. 18-27, 1940.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Diversions above station for irrigation.

Cooperation.- Records collected in cooperation with Bureau of Reclamation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23	23	19	20	19	28	42	3.7	1.0	1.6	0.6	1.3
2	24	25	19	24	20	24	41	4.0	1.3	4.0	.4	1.6
3	24	24	20	24	21	25	36	4.5	1.3	5.0	.4	1.0
4	27	24	21	23	22	26	32	4.5	1.3	5.0	a.4	1.3
5	25	25	20	22	20	26	32	4.5	1.6	5.5	a.3	a1.0
6	23	25	18	21	21	25	35	5.0	2.2	4.5	a2.5	a.8
7	22	25	19	20	22	*24	38	3.1	4.0	3.1	a5.5	a.6
8	22	24	19	20	21	25	35	1.3	24	2.8	a9.5	a.4
9	22	24	19	21	20	23	35	1.0	20	2.5	6.5	a.2
10	22	21	20	22	18	25	38	.7	18	2.5	a5.5	a.4
11	22	20	21	22	17	24	39	.8	16	2.5	a4.5	a.4
12	23	20	20	22	16	23	35	.9	14	2.8	a3.5	a.6
13	23	20	18	*21	15	23	35	1.0	13	3.1	a2.5	.9
14	23	20	18	20	16	24	39	1.9	11	2.2	a1.5	.8
15	23	17	18	19	17	26	42	1.3	8.0	1.9	a1.0	.7
16	24	18	20	19	16	28	46	1.3	6.5	1.6	a.8	.5
17	24	18	19	20	15	32	46	2.2	4.0	.8	a.6	.5
18	25	17	18	20	17	30	42	6.5	3.4	2.2	a.4	0
19	24	16	18	18	17	30	41	48	3.1	a5.5	a.4	0
20	24	20	17	17	16	31	41	40	3.1	a5	a.4	0
21	24	21	17	18	16	32	35	36	2.8	a9	a.6	0
22	24	21	16	19	16	33	15	41	2.5	a12	a.8	0
23	24	21	15	18	17	35	13	32	2.2	11	.9	0
24	24	22	15	17	18	39	12	32	2.5	9.6	.8	0
25	23	22	15	18	21	44	12	28	3.1	a7.5	1.3	0
26	24	20	14	20	23	48	13	27	1.6	a6.5	2.5	0
27	24	19	14	21	24	49	11	27	0	a5.5	2.5	0
28	24	18	15	22	26	49	11	20	0	a4	1.6	.4
29	24	18	14	22	29	44	9.6	3.4	0	a2.5	2.2	.6
30	24	19	16	21	-	38	7.5	1.9	0	a1.5	2.5	2.2
31	23	-	18	20	-	39	-	1.3	-	.7	2.2	-
Month					Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet			
October.....					731	27	22	23.6	1,450			
November.....					627	25	16	20.9	1,240			
December.....					550	21	14	17.7	1,090			
Calendar year 1939.....					18,263.6	255	9.4	50.0	36,210			
January.....					631	24	17	20.4	1,250			
February.....					556	29	15	19.2	1,100			
March.....					972	49	23	31.4	1,930			
April.....					909.1	46	7.5	30.3	1,800			
May.....					385.8	48	.7	12.4	765			
June.....					171.5	24	0	5.72	340			
July.....					131.9	12	.7	4.25	262			
August.....					65.1	9.5	.3	2.10	129			
September.....					16.2	2.2	0	.54	32			
Water year 1939-40.....					5,746.6	49	0	15.7	11,390			

*Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of recorded range of stage and observer's notes.

Note.- Stage-discharge relation affected by ice Nov. 16-18, Nov. 21 to Dec. 10, Dec. 12 to Mar. 22.

Location.- Water-stage recorder, lat. 42°35', long. 109°17', in sec. 18, T. 30 N., R. 104 W., at Leckie ranch, half a mile downstream from Squaw Creek and 19 miles southeast of Big Sandy. Former gage at same general location but different datum.

Records available.- July 1910 to August 1911 (published as Big Sandy Creek near Big Sandy, Wyo.), July 1939 to September 1940.

1910-11, 1939-40: Maximum discharge recorded, 396 second-feet June 12, 1911 (gage height, 8.3 feet, datum then in use), from rating curve extended above 160 second-feet; minimum discharge, that of Jan. 4, 1940, but probably less during period of ice effect.

Cooperation.- Records collected in cooperation with Bureau of Reclamation.

2.7	6.0	3.2	24.5	3.9	106
2.8	8.5	3.3	32	4.3	180
2.9	11.5	3.4	41	4.7	270
3.0	15	3.7	76	5.0	345

1939

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1										-	28	11
2										-	26	9.7
3										-	24	9.4
4										-	22	9.4
5										-	21	9.4
6												
7										-	20	9.7
8										-	20	15
9										-	20	15
10										-	19	14
										-	18	12
11										-	18	12
12										-	17	12
13										-	16	15
14										-	15	20
15										-	14	19
16												
17										-	13	18
18										-	14	18
19										-	12	17
20										-	13	16
										-	13	15
21										-	12	14
22										-	12	14
23										-	11	14
24											34	14
25											32	16
26												
27										30	11	20
28										30	11	17
29										26	11	14
30										28	11	13
31										30	11	13
										30	11	-

Discharge, in second-feet, of Big Sandy River at Leekie ranch, near Big Sandy, Wyo., 1939-40--Contd.

1939-40

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	15					14	46	215	79	14	13
2	17	15					13	71	204	110	15	12
3	22	14					12	111	182	193	14	11
4	22	14		(*)			13	158	156	140	13	12
5	20	14	(*)				13	142	178	110	13	14
6	19	13					13	124	193	90	12	14
7	19	14					14	110	172	75	12	14
8	19	12					15	135	153	74	12	13
9	18	12					15	170	133	80	12	13
10	17	11					14	220	124	93	12	14
11	16	10					13	268	119	115	11	16
12	16	10					13	292	128	104	11	17
13	16	10					20	275	138	77	10	19
14	16	10					26	248	146	60	10	18
15	16	9					33	237	137	48	10	17
16	15	9.5	6	4	5	8	26	248	129	43	9.1	16
17	15	9.5					22	206	120	42	8.5	15
18	15	9.5					30	200	111	37	8.2	15
19	14	9					36	191	104	32	7.8	16
20	14	9.5					37	198	101	29	8.2	17
21	14	10					33	158	95	25	9.1	20
22	14	9					30	147	87	22	10	20
23	13	9					26	164	82	20	10	18
24	13	9					34	191	75	19	10	17
25	13	8.5					42	198	69	17	12	17
26	15	8					51	200	64	17	15	17
27	14	7.5					49	242	60	17	18	16
28	13	7.5					45	248	54	17	17	23
29	15	7					48	235	50	17	15	48
30	16	7			-	(*)	43	228	49	15	14	69
31	15	-			-		-	224	-	14	13	-

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 9 to Apr. 7.

Monthly discharge, in second-feet, 1939-40

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
July 24-31, 1939	240	34	26	37.0	476
August.....	436	28	11	15.7	964
September.....	425.6	20	9.4	14.2	844
The period.....	-	-	-	-	2,280
October 1939	495	22	13	16.0	982
November.....	312.5	15	7	10.4	620
December.....	186	-	-	6	369
Calendar year	-	-	-	-	-
January 1940	124	-	-	4	246
February.....	145	-	-	5	288
March.....	249	-	-	8	492
April.....	793	51	12	26.4	1,570
May.....	5,885	292	46	190	11,670
June.....	3,628	215	49	121	7,200
July.....	1,831	193	14	59.1	3,630
August.....	365.9	18	7.8	11.8	726
September.....	561	69	11	18.7	1,110
Water year 1939-40	14,574.4	292	-	37.3	28,900

Little Sandy Creek near Elkhorn, Wyo.

Location.- Water-stage recorder, lat. $42^{\circ}32'$, long. $109^{\circ}13'$, in sec. 35, T. 30 N., R. 104 W., 7 miles northeast of Elkhorn.

Drainage area.- 20.9 square miles.

Records available.- July 1939 to September 1940.

Extremes.- Maximum discharge during period, 98 second-feet May 31 (gage height, 3.13 feet); minimum discharge, 0.9 second-foot Jan. 4 (discharge measurement), but less during period of ice effect.

Remarks.- Records good except those for period of ice effect, which are poor. Two small diversions above station.

Cooperation.- Records collected in cooperation with Bureau of Reclamation.

Discharge, in second-feet, 1939-40

1939

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1										-	6.8	11
2										-	6.5	11
3										-	6.2	9.8
4										-	6.2	9.8
5										-	5.8	8.4
6										-	5.8	7.5
7										-	6.3	7.9
8										-	7.2	7.3
9										-	7.0	6.8
10										-	6.8	6.3
11										-	7.0	6.0
12										-	6.8	5.8
13										-	6.6	6.2
14										-	6.6	5.8
15										-	6.5	5.5
16										-	6.5	5.2
17										-	6.3	4.7
18										-	6.3	4.1
19										-	6.3	3.8
20										-	6.2	3.2
21										-	5.0	3.2
22										-	5.2	2.8
23										-	4.2	2.8
24										-	3.9	3.2
25										4.7	4.2	2.9
26										6.0	3.8	3.0
27										7.0	3.0	2.8
28										6.8	3.5	2.5
29										8.8	3.6	2.5
30										7.7	8.6	2.5
31										7.2	12	-

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UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

U. S. GOVERNMENT PRINTING OFFICE 1650-0-1087

Discharge, in second-feet, of Little Sandy Creek near Elkhorn, Wyo., 1939-40--Continued

1939-40

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.2	2.8					7.8	9.8	88	12	6.8	1.9
2	3.5	2.6					7.6	12	86	13	6.8	1.9
3	3.6	2.3					7.4	20	76	20	6.8	1.6
4	3.6	2.6		(*)			7.2	30	61	22	6.6	1.9
5	3.5	3.0	(*)				8.0	22	62	18	6.6	2.5
6	3.0	2.9					9.6	17	56	15	8.4	2.0
7	3.2	2.9					9.4	16	45	13	8.4	2.0
8	3.3	3.0					8.8	18	38	11	8.1	2.0
9	3.2	2.1					8.3	22	30	9.6	7.9	2.1
10	2.8	2.6					8.2	24	27	8.6	7.7	2.5
11	2.5	2.9					8.2	25	25	8.1	7.3	2.5
12	2.5	3.3					8.4	27	29	7.7	7.0	2.6
13	2.3	2.9					9.0	25	40	7.0	6.8	3.2
14	2.3	3.5					11	23	52	6.3	6.5	3.5
15	2.2	1.8					13	31	54	6.2	6.2	3.3
16	2.2	2.1	1.8	0.8	1.8	4.0	12	58	50	6.2	5.7	3.2
17	2.2	2.5					11	63	44	6.0	5.2	3.0
18	2.1	2.7					12	58	39	5.0	4.9	2.9
19	2.0	2.8					13	63	35	4.9	4.6	3.2
20	2.0	2.9					11	57	33	4.4	4.6	3.2
21	1.9	2.8					11	49	30	3.8	3.9	3.5
22	1.8	2.9					12	40	27	5.5	3.5	3.3
23	1.8	2.8					12	37	23	6.2	2.8	3.2
24	1.5	2.8					9.8	46	20	6.2	2.6	3.2
25	1.8	2.8					10	63	17	6.5	2.8	3.2
26	2.0	2.8					11	72	16	7.3	3.2	3.0
27	1.6	2.8					10	88	14	7.9	3.2	2.9
28	2.8	2.6					11	92	12	8.1	2.8	4.2
29	2.9	2.5					9.8	86	10	8.8	2.6	6.0
30	3.3	2.4					9.3	87	9.6	8.6	2.5	5.8
31	2.9	-					-	89	-	7.2	2.2	-

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 10, Nov. 16 to Apr. 18.

Monthly discharge, in second-feet, 1939-40

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
July 25-31, 1939.....	48.2	5.8	4.7	6.89	96
August.....	186.7	12	3.0	6.02	370
September.....	164.3	11	2.5	5.48	326
Water year	-	-	-	-	-
October 1939	79.5	3.6	1.5	2.56	158
November.....	81.4	3.5	1.8	2.71	161
December.....	55.8	-	-	1.8	111
Calendar year	-	-	-	-	-
January 1940	24.8	-	-	.8	49
February.....	46.4	-	-	1.6	92
March.....	124.0	-	-	4.0	246
April.....	296.8	13	7.2	9.89	589
May.....	1,358.8	92	9.8	43.5	2,700
June.....	1,148.6	88	9.6	38.3	2,280
July.....	280.1	22	3.8	9.04	556
August.....	165.0	8.4	2.2	5.32	327
September.....	89.3	6.0	1.6	2.98	177
Water year 1939-40	3,750.5	92	-	10.2	7,450

Blacks Fork near Millburne, Wyo.

Location.- Water-stage recorder, lat. 41°03', long. 110°34', in sec. 35, T. 13 N., R. 117 W., 3 miles downstream from Little West Fork, 4½ miles north of Utah-Wyoming State line, and 15 miles southwest of Millburne.

Drainage area.- 156 square miles.

Records available.- July 1939 to September 1940.

Extremes.- Maximum discharge during year, 1,010 second-feet May 15 (gage height, 2.82 feet), from rating curve extended above 460 second-feet; minimum, 17 second-feet Jan. 24 (discharge measurement), but probably less during period of ice effect.
1939-40: Maximum discharge, that of May 15, 1940; minimum, that of Jan. 24, 1940, but probably less during period of ice effect.

Remarks.- Records excellent except those for period of ice effect, which are fair.

Cooperation.- Records collected in cooperation with Bureau of Reclamation.

Rating tables, water year 1939-40, except period of ice effect (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Dec. 24		Mar. 19 to Sept. 30	
0.2	27	0.1	21
.3	37	.2	28
.4	50	.4	52
.5	65	.5	68
		0.6	90
		1.3	340
		2.4	818

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	52	37				27	26	107	513	151	36	29
2	56	36				30	27	165	487	127	35	30
3	54	35				30	26	266	445	110	35	36
4	59	38				33	27	336	392	97	33	48
5	56	35				30	25	321	384	90	33	58
6	59	33				26	26	317	325	83	34	42
7	56	31				27	27	364	295	79	35	40
8	52	31				30	26	437	344	72	34	42
9	56	33				30	25	522	284	68	32	41
10	46	*24				32	26	618	266	66	33	45
11	49	23				29	27	721	280	65	29	40
12	47	23				34	28	767	291	63	28	41
13	47	25				32	30	772	298	62	27	47
14	46	26				30	36	726	310	57	27	47
15	46	27				30	40	777	291	57	28	46
16	45	24	21	20	22	27	38	809	277	66	30	41
17	44	22				26	35	758	266	72	30	42
18	45	21				30	45	685	252	63	29	48
19	38	22				24	58	645	234	65	30	62
20	41	23				24	61	610	230	55	36	114
21	41	24				24	97	610	222	50	36	110
22	40	25				24	114	570	212	48	36	93
23	40	27				25	144	596	194	46	39	86
24	41	27			(w)	26	180	601	176	44	40	79
25	37	28				28	212	574	162	42	47	79
26	38	29				28	212	658	151	41	51	86
27	36	31				27	190	658	141	40	42	72
28	35	28				28	158	583	131	40	36	162
29	42	25				27	131	522	117	40	33	162
30	34	25				25	100	504	138	41	32	148
31	40	-				26	-	526	-	42	30	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	1,420	59	34	45.6	2,820
November.....	836	37	21	27.9	1,660
December.....	651	-	-	21	1,290
Calendar year	-	-	-	-	-
January.....	620	-	-	20	1,230
February.....	638	-	-	22	1,270
March.....	872	34	24	28.1	1,730
April.....	2,219	212	25	74.0	4,400
May.....	17,125	809	107	552	35,970
June.....	8,109	613	117	270	16,080
July.....	2,042	151	40	66.9	4,050
August.....	1,056	51	27	34.1	2,090
September.....	2,018	162	29	67.3	4,000
Water year 1939-40.....	37,606	809	-	103	74,590

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 10 to Mar. 18.

GREEN RIVER BASIN

Blacks Fork near Urie, Wyo.

Location.- Water-stage recorder, lat. 41°21', long. 110°20', in sec. 24, T. 16 N., R. 115 W., 2 miles downstream from Quartz Creek and 2½ miles north of Urie. Prior to Apr. 12, 1939, recorder at site 500 feet upstream.

Drainage area.- 261 square miles.

Records available.- August 1913 to September 1924, October 1937 to September 1940.

Extremes.- 1938-39: Maximum discharge during year, 159 second-feet May 12 (gage height, 3.04 feet, site and datum then in use); minimum daily, 0.2 second-foot Sept. 2, 3. 1939-40: Maximum discharge during year, 452 second-feet May 16 (gage height, 4.22 feet); minimum daily, 0.4 second-foot July 27. 1913-24, 1937-40: Maximum discharge, 2,680 second-feet June 20, 1917 (gage height, 4.72 feet, site and datum then in use); minimum daily, that of Sept. 2, 3, 1939.

Remarks.- Records fair except those for June 1 to Sept. 30, 1939, which are poor. Discharge versions above station for irrigation.

Cooperation.- Records collected in cooperation with Bureau of Reclamation.

Discharge, in second-feet, 1938-40

1938-39

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.9	12					58	a20	82	3.6	5.1	0.3
2	5.5	14					59	a88	46	2.9	3.6	.2
3	5.1	13					62	a86	33	a2.8	2.4	.2
4	5.5	14					72	a74	26	a2.8	2.2	.3
5	6.6	18					53	94	25	a2.7	2.9	.4
6	7.0	14					47	84	20	3.6	3.3	.6
7	10	12					46	39	20	3.6	2.9	1.4
8	10	13					41	29	16	3.3	2.2	1.6
9	10	16					36	27	18	3.6	1.4	1.2
10	11	14					37	37	18	3.6	1.4	.6
11	10	13					35	60	16	4.0	1.9	.6
12	10	12					35	124	13	4.4	2.4	.9
13	10	13					34	54	13	4.4	2.6	2.2
14	9.5	14					32	32	14	5.1	2.9	1.9
15	10	13	(*)				26	37	14	5.1	3.3	1.9
16	22	12	20	19	18	75	23	65	16	4.8	2.9	1.6
17	28	12					22	66	16	4.4	2.2	1.4
18	28	11					17	48	15	3.6	1.6	1.4
19	24	13					16	50	14	2.9	1.6	1.4
20	18	17					8.8	51	12	2.2	1.9	1.2
21	21	16					9.7	48	9.2	1.9	1.2	1.6
22	20	13					31	37	7.5	2.2	1.2	1.9
23	17	11					107	34	5.5	1.6	1.2	2.9
24	14	12					63	42	5.5	.9	.9	4.4
25	14	13					35	60	5.5	1.2	.9	7.5
26	14	14					20	40	6.6	1.6	.9	9.2
27	13	13					17	31	5.1	1.4	1.2	5.9
28	13	14					20	23	4.8	1.4	.9	6.6
29	13	15					65	21	4.0	4.0	1.4	7.0
30	13	16					82	36	3.6	3.6	.9	5.5
31	13	-					-	64	-	5.5	.9	-

*Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of records for station near Lyma.

Notes.- Stage-discharge relation affected by ice Nov. 8 to Apr. 1.

Discharge, in second-feet, of Blacks Fork near Urie, Wyo., 1938-40--Continued

1939-40

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.8	7.5				20	26	11	16	5.9	0.9	1.4
2	4.8	7.9				23	18	7.5	14	5.9	.9	1.6
3	5.1	8.4				25	15	6.6	16	5.9	.9	1.9
4	5.1	8.4				30	14	11	18	4.4	.9	1.6
5	4.0	8.8				26	12	19	20	3.6	.9	1.9
6	4.0	8.8				18	14	11	18	2.2	.9	1.2
7	2.9	8.8				19	14	9.2	15	1.9	.9	1.2
8	3.3	8.8				23	12	11	14	1.9	.9	1.2
9	3.6	8.8				28	12	18	16	1.6	.9	1.2
10	2.9	7.2				22	13	45	16	1.4	.9	1.2
11	3.3	*4.4				21	15	98	14	1.2	.9	.6
12	3.6	4.8	(*)			26	14	180	15	1.2	.9	1.2
13	4.0	4.0				26	12	271	18	.6	.9	1.2
14	4.8	4.4				25	12	281	18	.9	.9	1.2
15	4.4	4.0				24	9.7	234	16	1.2	.9	.9
16	4.8	5.1	6.0	5.0	7.5	21	9.2	310	14	1.6	.9	a.9
17	5.1	4.4				21	8.8	279	15	1.9	.9	a.9
18	5.5	4.8				18	7.5	194	14	1.9	.9	a.9
19	5.5	4.0				17	7.0	137	14	1.9	.9	a.9
20	5.5	4.4				18	6.2	47	16	1.6	.9	2.9
21	5.9	4.8				19	5.9	37	12	1.6	.6	3.3
22	6.2	5.9			(*)	19	6.2	20	10	1.6	1.2	2.6
23	6.6	6.6				18	6.6	17	7.8	1.2	1.4	2.6
24	6.6	6.2				20	7.5	22	7.9	1.2	1.9	2.9
25	6.2	5.9				26	9.2	20	7.0	.9	2.4	3.6
26	6.2	6.2				32	9.2	40	5.9	.9	1.9	3.6
27	5.9	7.0				45	12	203	4.4	.4	1.6	4.0
28	6.2	6.6				40	11	101	3.6	.6	1.2	6.2
29	6.2	7.9				32	11	61	4.0	.6	1.2	10
30	6.6	6.6				29	12	28	4.8	.9	.6	9.2
31	7.0	-				28	-	20	-	1.2	.6	-

*Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of records for station near Lyman.

Note.- Stage-discharge relation affected by ice Nov. 10 to Mar. 2.

Monthly discharge, in second-feet, 1938-40

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October 1938	411.1	28	5.1	13.3	815
November	407	18	11	13.6	807
December	620	-	-	20	1,230
Calendar year 1938	20,190.3	599	2.5	55.3	40,040
January 1939	589	-	-	19	1,170
February	504	-	-	18	1,000
March	2,325	-	-	75	4,610
April	1,209.5	107	8.8	40.3	2,400
May	1,681	124	21	54.2	3,330
June	505.3	82	3.6	16.8	1,000
July	98.7	5.5	.9	3.18	196
August	62.3	5.1	.9	2.01	124
September	73.8	9.2	.2	2.46	146
Water year 1938-39	8,486.7	124	.2	23.3	16,830
October 1939	156.6	7.0	2.9	5.05	311
November	191.4	8.8	4.0	6.38	380
December	186	-	-	6.0	369
Calendar year 1939	7,582.6	124	.2	20.8	15,040
January 1940	155	-	-	5.0	307
February	217.5	-	-	7.5	451
March	759	45	17	24.5	1,510
April	342.0	28	5.9	11.4	678
May	2,749.3	310	6.6	88.7	5,450
June	384.5	20	3.6	12.8	763
July	59.8	5.9	.4	1.93	119
August	32.6	2.4	.6	1.05	65
September	74.0	10	.6	2.47	147
Water year 1939-40	5,307.7	310	.4	14.5	10,530

Blacks Fork near Lyman, Wyo.

Location.- Water-stage recorder, lat. 41°27', long. 110°10', in sec. 21, T. 17 N., R. 113 W., 4 miles downstream from Cottonwood Creek and 12 miles northeast of Lyman.

Drainage area.- 821 square miles.

Records available.- October 1937 to September 1940.

Extremes.- Maximum discharge during year, 1,140 second-feet May 27 (gage height, 4.39 feet); no flow Aug. 8, 15-22.

1937-40: Maximum discharge, 1,440 second-feet May 17, 1938 (gage height, 4.75 feet); no flow Aug. 8, 15-22, 1940.

Remarks.- Records fair. Diversions above station for irrigation.

Cooperation.- Records collected in cooperation with Bureau of Reclamation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Avg.	Sept.
1	4.0	8.4				45	63	36	168	12	2.2	1.1
2	4.5	9.3				48	68	29	139	15	2.2	1.0
3	5.8	9.3				54	74	21	114	10	1.8	9.3
4	5.8	9.3				62	65	20	101	9.3	1.4	19
5	5.6	8.8				*56	51	28	92	8.2	.8	7.4
6	5.6	9.3				45	57	41	89	7.2	.4	3.3
7	5.3	8.8				49	63	28	57	6.5	.2	2.1
8	6.5	8.8				54	44	19	33	6.0	0	2.0
9	7.7	8.8				62	37	20	26	5.6	.2	2.6
10	9.7	11				56	37	51	24	5.3	1.6	2.8
11	7.4	12				54	41	236	19	5.1	1.5	2.0
12	7.0	11				52	36	490	16	5.3	1.1	2.1
13	7.2	11	(*)			52	28	570	14	5.1	.9	2.3
14	7.2	10				54	27	595	13	4.9	.4	4.7
15	7.2	14				70	27	590	12	4.9	0	3.7
16	7.0	11				135	31	585	11	5.6	0	2.2
17	7.0	7.0				119	28	645	11	5.8	0	1.7
18	7.7	7.2				92	21	550	11	6.0	0	1.6
19	7.2	7.7				77	18	365	10	5.8	0	1.6
20	6.7	7.9				76	18	171	11	5.6	0	128
21	6.7	8.4				72	16	112	12	5.3	0	83
22	6.7	10				72	16	111	11	4.9	0	10
23	7.4	9.7		(*)		68	18	88	9.3	4.5	1.2	7.0
24	7.2	11				70	21	84	8.8	4.2	1.2	5.8
25	7.9	11				71	28	90	8.8	3.3	2.0	7.9
26	7.9	12				72	30	144	8.4	2.9	2.5	7.4
27	7.7	14				78	32	860	8.2	2.4	2.6	6.7
28	7.4	8.8				95	42	655	8.2	2.0	1.6	74
29	7.9	9.5				98	43	470	8.2	1.4	1.4	96
30	7.9	8.2				80	44	345	19	1.0	1.3	86
31	8.4	-				70	-	238	-	1.7	1.2	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						215.2	9.7	4.0	6.94	427		
November.....						295.2	14	7.0	9.77	582		
December.....						279	-	-	9	553		
Calendar year 1939.....						23,884.3	790	.6	66.4	47,360		
January.....						263.5	-	-	8.5	523		
February.....						318	-	-	11	633		
March.....						2,158	135	45	69.6	4,280		
April.....						1,124	74	16	37.5	2,230		
May.....						8,271	860	19	267	16,410		
June.....						1,072.9	168	8.2	35.8	2,130		
July.....						170.8	13	1.0	5.51	359		
August.....						29.7	2.6	0	.96	59		
September.....						584.3	128	1.0	19.5	1,160		
Water year 1939-40.....						14,780.6	860	0	40.4	29,330		

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 29 to Mar. 16.

East Fork of Smith Fork near Robertson, Wyo.

Location.- Water-stage recorder, lat. 41°03', long. 110°24', on west line of sec. 4, T. 12 N., R. 115 W., 1 mile upstream from Gilbert Creek and 11 miles southeast of Robertson.

Drainage area.- 59.0 square miles.

Records available.- July 1939 to September 1940.

Extremes.- Maximum discharge during period, 384 second-feet May 13 (gage height, 2.50 feet), from rating curve extended above 130 second-feet; minimum, 3.0 second-feet Jan. 23 (discharge measurement), but may have been less during period of ice effect.

Remarks.- Records good except those for period of ice effect, which are fair. No diversions above station.

Cooperation.- Records collected in cooperation with Bureau of Reclamation.

Discharge, in second-feet, 1939-40

1939

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1										-	21	11
2										-	19	9.4
3										-	19	8.2
4										-	18	8.2
5										-	18	9.7
6										-	17	12
7										-	21	18
8										-	18	18
9										-	16	15
10										-	15	14
11										-	14	15
12										-	14	14
13										-	13	30
14										-	15	42
15										-	16	34
16										-	14	30
17										33	13	28
18										32	11	24
19										27	11	22
20										22	10	20
21										21	11	19
22										20	11	20
23										19	10	20
24										18	9.7	19
25										17	11	22
26										18	10	22
27										18	11	19
28										19	12	21
29										23	16	21
30										27	15	18
31										23	15	-

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Geological Survey

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Discharge, in second-feet, of East Fork of Smith Fork near Robertson, Wyo., 1939-40--Continued

1939-40

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	13					5.2	29	119	34	7.0	5.4
2	19	12					5.4	39	122	33	6.6	5.2
3	19	12					5.4	63	112	27	6.4	6.6
4	21	12					5.2	83	96	24	6.6	11
5	20	11					5.0	85	96	23	6.2	15
6	20	11					5.0	85	78	20	6.4	13
7	19	11					5.4	94	68	20	7.0	11
8	19	11					5.2	114	71	19	7.3	11
9	19	9.7					5.2	170	61	17	6.4	11
10	17	7.0					5.0	227	56	16	6.4	11
11	17	3.4					5.0	265	56	15	6.0	11
12	17	3.6					5.3	298	57	15	4.8	11
13	17	3.3					5.4	301	57	15	4.6	12
14	16	3.4					6.4	244	58	13	4.7	13
15	16	3.3					8.2	268	61	13	4.8	13
16	15	3.7	4.0	3.7	4.5	5.4	9.4	295	57	17	5.0	12
17	15	3.4					10	259	53	18	5.2	12
18	15	3.6					11	205	51	17	5.0	12
19	14	3.6					15	183	48	18	5.2	16
20	14	3.6					21	165	47	15	6.0	21
21	13	3.7					30	157	44	13	6.4	28
22	13	4.0					36	139	42	12	6.6	24
23	13	4.1		(s)			42	152	40	11	7.9	22
24	13	4.1					43	157	38	10	9.7	22
25	13	4.1					58	141	41	9.1	10	21
26	12	4.2					72	167	38	8.8	12	22
27	13	4.3					54	170	34	8.2	10	20
28	14	4.2					42	157	33	7.6	7.9	39
29	13	3.8					36	139	28	7.3	6.4	46
30	13	3.7					30	122	27	7.9	6.0	42
31	12	-					-	126	-	7.9	5.2	-

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 10 to Apr. 18.

Monthly discharge, in second-feet, 1939-40

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
July 17-31, 1939.....	537	33	17	22.5	668
August.....	440.7	21	9.7	14.2	874
September.....	581.5	42	8.2	19.4	1,150
The period.....	-	-	-	-	2,690
October 1939	489	21	12	15.8	970
November.....	184.8	13	3.3	6.16	367
December.....	124	-	-	4.0	246
Calendar year	-	-	-	-	-
January 1940	114.7	-	-	3.7	228
February.....	130.5	-	-	4.5	259
March.....	167.4	-	-	5.4	332
April.....	591.7	72	5.0	19.7	1,170
May.....	5,099	301	29	164	10,110
June.....	1,789	122	27	59.6	3,550
July.....	491.8	34	7.3	15.9	975
August.....	205.7	12	4.6	6.64	408
September.....	519.2	46	5.2	17.3	1,030
Water year 1939-40	9,906.8	301	-	27.1	19,640

West Fork of Smith Fork near Robertson, Wyo.

Location.- Water-stage recorder, lat. 41°01', long. 110°29', in sec. 15, T. 12 N., R., 116 W., three-quarters of a mile downstream from Archie Creek and 13 miles southwest of Robertson.

Drainage area.- 37.2 square miles.

Records available.- July 1939 to September 1940.

Extremes.- Maximum discharge during period, 96 second-feet May 11 (gage height, 2.37 feet), from rating curve extended above 35 second-feet; minimum daily, 0.2 second-foot Aug. 13, 1940.

Remarks.- Records good except those for periods of ice effect, which are fair. No diversions above station.

Cooperation.- Records collected in cooperation with Bureau of Reclamation.

Discharge, in second-feet, 1939-40
1939

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1										-	3.3	1.3
2										-	2.5	1.1
3										-	2.2	1.0
4										-	2.1	1.3
5										-	2.1	1.6
6										-	2.1	3.3
7										-	2.3	6.2
8										-	1.7	3.7
9										-	1.4	2.3
10										-	1.4	2.1
11										-	1.3	2.2
12										-	1.3	2.1
13										3.7	1.3	2.2
14										3.7	1.3	2.5
15										2.5	1.1	2.1
16										2.2	1.0	1.9
17										3.0	.9	1.7
18										2.6	.7	1.6
19										2.2	.7	1.4
20										2.1	.7	1.4
21										1.7	.8	1.4
22										1.9	.7	1.9
23										1.7	.7	2.1
24										1.5	.9	2.0
25										1.5	1.3	2.5
26										2.9	1.2	2.5
27										2.7	1.3	2.0
28										2.6	1.6	4.1
29										5.4	3.5	3.3
30										2.8	2.3	2.0
31										4.7	1.9	-

Discharge, in second-feet, of West Fork of Smith Fork near Robertson, Wyo., 1939-40--Continued
1939-40

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.2	2.2					-	22	34	7.3	0.6	0.5
2	2.5	2.1					-	30	32	5.4	.5	.5
3	2.5	1.7					-	44	29	4.0	.4	1.0
4	2.7	2.1					-	52	28	3.3	.4	2.0
5	2.3	2.1					-	46	27	2.6	.4	1.9
6	2.7	2.1					-	42	26	2.2	.4	1.1
7	2.2	2.1					-	47	24	2.1	.5	.9
8	2.3	2.1					-	58	26	1.9	.4	.9
9	3.2	2.0					-	70	23	1.5	.4	.9
10	2.5	1.5					-	73	20	1.5	.4	1.0
11	2.5	bl.2					-	76	20	1.7	.3	1.0
12	2.5	bl.3					-	77	19	1.9	.3	1.3
13	2.2	bl.2					*b5.0	76	18	1.5	.2	1.3
14	2.0	bl.2					b5.4	69	17	1.3	.3	1.1
15	1.9	bl.2					b4.0	69	16	1.4	.3	1.1
16	1.9	1.3					b5.6	65	14	2.9	.3	.9
17	1.5	1.0					b7.0	58	13	3.5	.3	.9
18	1.5	.9					b8.0	53	12	3.2	.4	1.0
19	1.4	.9					bl5	49	11	2.9	.4	1.3
20	1.4	1.0					*b28	47	10	1.7	.5	3.0
21	1.5	1.0					b27	46	9.2	1.2	.6	2.5
22	1.4	bl.0					*b26	45	8.4	1.0	.7	1.7
23	1.4	bl.6					29	44	7.6	1.0	1.0	1.3
24	1.4	bl.3					29	44	6.5	1.0	1.3	1.1
25	1.5	bl.1					31	40	5.0	.6	2.1	1.4
26	2.1	1.0					34	46	4.3	.5	2.2	2.1
27	1.6	.9					29	50	4.0	.5	1.1	1.4
28	1.5	1.0					28	44	3.8	.5	.8	4.0
29	2.1	1.0					22	40	3.5	.5	.6	4.7
30	1.9	.8					20	37	5.0	.7	.5	4.1
31	2.1	-					-	36	-	.8	.5	-

*Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Monthly discharge, in second-feet, 1939-40

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
July 13-31, 1939.....	59.4	8.8	1.5	3.13	118
August.....	47.6	3.5	.7	1.54	94
September.....	66.8	6.2	1.0	2.23	132
The period.....	-	-	-	-	344
October 1939.....	62.4	3.2	1.4	2.01	124
November.....	41.8	2.2	.8	1.39	83
December.....	-	-	-	-	-
Calendar year.....	-	-	-	-	-
January.....	-	-	-	-	-
February.....	-	-	-	-	-
March.....	-	-	-	-	-
April 13-30, 1940.....	349.0	34	3.0	19.4	692
May.....	1,595	77	22	61.5	3,160
June.....	476.3	34	3.5	15.9	945
July.....	62.1	7.3	.5	2.00	123
August.....	19.1	2.2	.2	.62	36
September.....	47.9	4.7	.5	1.60	95
Water year.....	-	-	-	-	-

Henrys Fork at Linwood, Utah

Location.- Water-stage recorder, lat. 41°00', long. 109°39', in sec. 23, T. 12 N., R. 109 W., 200 feet north of Utah-Wyoming State line, at Linwood. Datum of gage is 5,992.57 feet above mean sea level (general adjustment of 1912).

Drainage area.- 531 square miles.

Records available.- October 1928 to September 1940.

Average discharge.- 12 years, 71.0 second-feet.

Extremes.- Maximum discharge during year, 396 second-feet May 27; maximum gage height, 4.30 feet (ice jam) Dec. 22; no flow July 13 to Aug. 26, Aug. 30 to Sept. 26.
1928-40: Maximum discharge, 6,750 second-feet Aug. 3, 1936 (gage height, 7.19 feet, from floodmarks), by slope-area method; no flow several days in 1924, 1935, 1939, and 1940.

Remarks.- Records good except those for period of ice effect, which are fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	45	48	40	34	56	62	55	45	0.3	0	0
2	14	45	52	40	34	54	62	48	38	.3	0	0
3	19	45	52	40	34	52	57	45	35	.3	0	0
4	27	42	50	40	34	52	55	45	25	.3	0	0
5	32	40	55	38	34	48	53	57	19	.3	0	0
6	32	42	59	34	34	34	61	72	19	.3	0	0
7	31	40	61	32	34	32	57	64	19	.2	0	0
8	34	38	62	30	34	30	50	61	16	.2	0	0
9	46	40	53	32	32	34	48	62	13	.2	0	0
10	53	38	48	34	34	35	48	62	8.5	.2	0	0
11	48	32	46	34	28	28	48	134	14	.1	0	0
12	46	35	38	34	*26	21	42	213	5.0	.1	0	0
13	45	40	36	*32	28	20	37	231	3.8	0	0	0
14	35	40	36	34	30	27	38	223	2.9	0	0	0
15	31	40	40	32	30	34	38	186	1.8	0	0	0
16	38	35	46	28	28	42	45	221	1.2	0	0	0
17	42	30	52	32	26	46	50	257	.5	0	0	0
18	40	32	46	28	26	48	45	215	.4	0	0	0
19	42	34	44	24	28	50	40	162	.4	0	0	0
20	42	36	40	24	30	50	40	141	.4	0	0	0
21	40	38	38	28	28	45	42	126	.4	0	0	0
22	40	40	36	24	30	57	42	115	.4	0	0	0
23	40	44	36	26	32	61	43	95	.4	0	0	0
24	40	44	36	28	40	97	53	90	.4	0	0	0
25	40	42	34	30	40	101	76	61	.4	0	0	0
26	42	40	28	32	44	88	74	130	.4	0	0	0
27	42	48	30	34	50	80	68	299	.3	0	1.9	19
28	42	46	26	36	56	66	70	106	.3	0	.8	26
29	45	46	26	36	58	57	64	61	.3	0	.1	19
30	46	46	32	36	-	53	57	64	.3	0	0	48
31	43	-	34	34	-	55	-	59	-	0	0	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						1,171	53	14	37.8	2,320		
November.....						1,201	48	30	40.0	2,380		
December.....						1,320	62	26	42.6	2,620		
Calendar year 1939.....						20,868.9	316	0	57.2	41,380		
January.....						1,006	40	24	32.5	2,000		
February.....						996	53	26	34.3	1,980		
March.....						1,553	101	20	50.1	3,080		
April.....						1,565	76	37	52.2	3,100		
May.....						3,754	299	43	121	7,450		
June.....						271.5	45	.3	9.05	539		
July.....						2.8	.3	0	.09	5.6		
August.....						2.8	1.9	0	.09	5.6		
September.....						112	48	0	3.73	222		
Water year 1939-40.....						12,955.1	299	0	35.4	25,700		

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 18-30, Dec. 13 to Mar. 3.

Burnt Fork at Burnt Fork, Wyo.

Location.— Chain gage, lat. 41°02', long. 110°01', in sec. 11, T. 12 N., R. 112 W., a quarter of a mile west of Burnt Fork and 1 mile upstream from mouth. Datum of gage is 7,098.70 feet above mean sea level (general adjustment of 1912).

Drainage area.— 73 square miles.

Records available.— July 1929 to September 1940.

Extremes.— Maximum discharge observed during year, 21 second-feet May 4 (gage height, 2.40 feet); minimum daily, 0.2 second-foot Aug. 9-15, Sept. 15-20, 23, 24.
1929-40: Maximum discharge, 4,360 second-feet Aug. 2, 1936 (gage height, 9.60 feet, from floodmarks), by slope-area method; no flow June 27, 30, July 2, 5-7, 17, 18, 25, 1934.

Remarks.— Records good except those for periods of ice effect, which are fair. Gage read twice daily. Diversions above station for irrigation.

Rating tables, water year 1939-40, except periods of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Mar. 1 to Apr. 6, Apr. 13-19, June 28 to Aug. 6, Sept. 28-30)

Oct. 1 to Jan. 31				Feb. 1 to Sept. 30			
1.6	2.7	1.8	5.8	1.2	0	1.7	3.4
1.7	4.0	1.9	7.8	1.3	.3	1.9	7
				1.4	.8	2.1	11
				1.5	1.4	2.3	17
				1.6	2.2		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.4	3.1	4.7	5.2	2.4	2.2	2.9	4.2	1.5	0.6	0.5	0.8
2	5.8	3.2	4.9	4.8	2.4	2.7	2.7	3.2	1.5	.7	.5	.8
3	5.6	3.1	4.9	4.6	2.4	2.0	2.6	5.8	1.2	.7	.4	.9
4	5.8	3.2	4.2	4.4	2.4	2.6	2.3	16	1.2	.7	.4	.9
5	6.0	3.2	3.9	4.5	2.4	3.3	2.3	9.0	1.1	.7	.4	.8
6	5.8	3.1	3.7	4.0	2.4	3.2	2.3	8.8	1.1	.7	.4	.6
7	5.6	3.1	3.7	3.6	2.4	3.2	2.1	7.0	1.0	.7	.4	.4
8	6.4	3.4	3.7	3.6	2.4	2.4	2.1	5.2	1.0	.6	.4	.4
9	7.2	3.4	3.7	4.0	2.2	2.6	2.0	6.4	.8	.5	.2	.4
10	6.8	3.5	3.5	5.4	2.2	2.7	2.0	8.4	.8	.5	.2	.4
11	6.8	3.7	4.0	4.8	2.0	2.9	1.9	12	.6	.4	.2	.4
12	7.2	4.0	3.9	5.0	*1.9	3.0	1.7	11	.5	.5	.2	.4
13	6.6	3.9	4.2	*4.6	1.8	2.6	1.8	8.6	.5	.4	.2	.3
14	6.4	4.0	6.2	4.0	1.8	3.9	1.8	7.8	.6	.5	.2	.3
15	6.4	4.2	6.4	4.4	1.8	3.6	1.9	7.0	.6	.6	.2	.2
16	6.6	3.7	6.6	4.6	1.8	4.0	2.1	7.8	.6	.6	.4	.2
17	4.9	4.0	6.4	4.4	1.8	2.6	2.2	6.8	.6	.6	.4	.2
18	5.1	3.9	6.0	3.0	1.8	3.6	2.3	4.4	.6	.8	.4	.2
19	4.7	3.7	5.8	2.2	1.8	2.4	3.0	2.6	.6	.8	.6	.2
20	4.5	3.6	5.8	2.6	1.8	3.6	4.2	1.6	.6	.6	.6	.2
21	4.4	3.6	5.6	2.8	1.8	4.5	5.0	1.6	.7	.7	.6	.3
22	3.9	3.9	5.0	2.6	1.8	3.2	4.8	1.6	.6	.6	.8	.3
23	3.9	3.6	5.4	2.4	1.8	3.2	6.6	1.6	.6	.8	.9	.2
24	3.6	3.7	5.2	2.6	2.0	3.4	7.0	1.5	.6	.8	1.0	.2
25	3.6	3.6	4.4	2.8	2.0	3.6	8.4	1.6	.4	.6	1.0	.4
26	3.6	3.7	4.2	2.8	2.0	3.4	8.8	1.9	.6	.5	1.0	.6
27	3.4	3.9	4.2	2.8	2.0	3.4	8.4	2.0	.6	.6	1.0	.6
28	3.4	3.7	4.4	2.8	2.2	2.9	6.6	1.7	.6	.6	.9	.8
29	3.4	3.4	4.6	2.6	2.4	3.0	6.2	1.5	.6	.5	.9	.9
30	3.2	3.9	4.8	2.4	-	3.0	4.2	1.5	.6	.6	.9	.9
31	3.2	-	5.0	2.4	-	2.8	-	1.5	-	.4	.8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	159.2	7.2	3.2	5.14	316
November.....	108.0	4.2	3.1	3.60	214
December.....	149.0	6.6	3.5	4.81	296
Calendar year 1939.....	2,262.9	69	.8	6.20	4,490
January.....	112.7	5.4	2.2	3.64	224
February.....	59.9	2.4	1.8	2.07	119
March.....	95.5	4.5	2.0	3.08	189
April.....	112.2	8.8	1.7	3.74	228
May.....	161.6	16	1.5	5.21	321
June.....	22.9	1.5	.4	.76	45
July.....	18.9	.8	.4	.61	37
August.....	17.0	1.0	.2	.55	34
September.....	14.2	.9	.2	.47	28
Water year 1939-40.....	1,031.1	16	.2	2.82	2,050

*Winter-discharge measurement made on this day.

Note.— Stage-discharge relation affected by ice Dec. 19, 20, 22, Dec. 24 to Feb. 29.

Yampa River at Steamboat Springs, Colo.

Location.- Water-stage recorder, lat. 40°29', long. 106°50', in sec. 17, T. 6 N., R. 84 W., at Steamboat Springs, a quarter of a mile upstream from Soda Creek. Datum of gage is 6,896.23 feet above mean sea level (general adjustment of 1912).

Drainage area.- 604 square miles.

Records available.- May 1904 to October 1906 and October 1909 to September 1926 (monthly discharge), and October 1933 to September 1940 in reports of Geological Survey. May 1904 to October 1906 and March 1910 to September 1940 in reports of State engineer.

Average discharge.- 33 years, 492 second-feet.

Extremes.- Maximum discharge during year, 3,220 second-feet May 31 (gage height, 4.94 feet); minimum daily, 14 second-feet Sept. 13, 1904-6, 1909-40: Maximum discharge, 6,820 second-feet June 14, 1931 (gage height, 7.06 feet); minimum daily, 4 second-feet Sept. 8, 1934.

Remarks.- Records excellent except those for periods of ice effect or no gage-height record, which are fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	95	110	72	65	74	112	388	673	2,620	235	74	40
2	96	117	79	79	77	127	384	708	2,570	356	65	23
3	77	112	72	90	81	114	293	810	2,440	361	56	24
4	54	107	72	90	84	120	285	1,070	2,210	289	56	29
5	95	112	72	90	77	114	356	1,250	1,890	242	51	26
6	a98	117	74	68	79	104	410	1,540	1,620	211	48	26
7	a102	114	81	b85	e1	114	384	1,380	1,410	174	50	26
8	107	110	74	b82	68	107	361	1,410	1,320	146	53	20
9	114	117	79	77	81	a107	370	1,610	1,120	127	53	20
10	124	102	79	77	88	a106	379	1,670	1,080	114	50	27
11	122	96	74	88	72	a105	301	2,110	1,050	110	63	26
12	114	100	90	84	a104	265	2,220	1,040	90	56	18	18
13	110	110	68	81	79	104	330	2,580	1,040	86	48	14
14	110	107	79	84	74	104	515	2,210	1,020	66	40	34
15	110	93	81	b60	65	104	733	2,240	954	84	35	48
16	110	95	79	b66	77	107	758	2,480	914	72	35	51
17	107	79	97	70	b66	120	673	2,530	810	72	34	54
18	97	74	97	b65	b70	127	581	2,150	745	90	34	65
19	97	88	95	b60	b74	130	614	2,150	673	107	30	70
20	95	86	48	b59	b70	143	679	2,120	605	90	32	74
21	90	102	61	b60	79	146	703	1,980	592	77	24	84
22	90	127	b56	b58	77	165	691	1,710	554	68	26	117
23	93	84	54	b66	72	211	625	1,720	476	74	24	112
24	90	95	56	b68	77	246	733	1,770	420	65	30	97
25	77	97	63	65	79	267	914	1,860	348	65	38	84
26	86	90	68	68	81	285	934	1,950	301	63	86	107
27	97	95	70	77	81	297	927	2,430	263	56	117	198
28	95	86	b64	74	88	285	914	2,440	235	61	107	140
29	102	81	54	86	100	249	862	a2,470	211	74	88	146
30	95	69	50	86	-	235	790	a2,490	204	74	70	174
31	107	-	56	86	-	281	-	2,520	-	74	53	-
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....							3,076	124	77	99.2	6,100	
November.....							2,961	127	66	98.7	5,870	
December.....							2,216	97	48	71.5	4,400	
Calendar year 1939.....							148,463	2,610	34	407	294,500	
January.....							2,340	90	58	75.5	4,640	
February.....							2,255	100	65	77.8	4,470	
March.....							4,940	297	104	159	9,800	
April.....							17,150	934	263	572	34,020	
May.....							58,052	2,530	673	1,873	115,100	
June.....							30,733	2,620	204	1,024	60,960	
July.....							3,893	361	56	126	7,720	
August.....							1,626	117	24	52.5	3,250	
September.....							1,974	198	14	65.8	3,920	
Water year 1939-40.....							131,216	2,620	14	359	260,200	

a No gage-height record; discharge interpolated.
b Stage-discharge relation affected by ice.

Yampa River near Maybell, Colo.

Location.- Water-stage recorder, lat. 40°30', long. 108°02', in sec. 2, T. 6 N., R. 95 W., 3 miles east of Maybell.

Drainage area.- 3,410 square miles.

Records available.- April 1904 to October 1905, June 1910 to November 1912, April 1916 to September 1917, and October 1917 to September 1926 (monthly discharge), and October 1933 to September 1940 in reports of Geological Survey. April 1916 to September 1940 in reports of State engineer.

Average discharge.- 24 years (1916-40), 1,664 second-feet.

Extremes.- Maximum discharge during year, 9,170 second-feet May 14 (gage height, 7.64 feet); minimum daily, 41 second-feet Sept. 7, 8.
1904-5, 1910-12, 1916-40: Maximum discharge observed, 17,900 second-feet May 19, 1917 (gage height, about 10.4 feet, site and datum then in use), from rating curve extended above 12,000 second-feet; minimum daily, 2 second-feet July 17-19, 1934.

Remarks.- Records excellent above 1,000 second-feet and good below, except those for period of ice effect, which are fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	352	270	197	157	200	460	1,130	3,400	6,230	752	121	66
2	329	250	204	172	250	*448	1,430	2,550	6,560	744	120	64
3	285	285	197	194	250	448	1,600	3,180	6,560	840	113	59
4	275	285	180	189	240	448	1,200	4,160	6,510	982	110	48
5	265	296	168	192	228	448	1,100	5,700	5,940	931	105	44
6	255	296	163	178	224	448	1,220	6,230	5,540	816	99	42
7	285	296	175	165	224	448	1,390	6,160	4,830	685	96	41
8	324	296	192	163	224	406	1,370	6,030	5,820	615	92	41
9	358	318	265	152	*221	424	1,180	6,140	3,750	538	86	42
10	358	312	235	141	218	430	1,200	6,730	3,160	484	82	58
11	376	312	232	143	221	412	1,300	7,300	2,700	424	77	44
12	370	302	172	155	221	418	1,170	7,770	2,780	340	74	47
13	364	250	137	128	218	358	948	8,210	2,980	307	70	49
14	352	260	132	130	221	312	965	8,850	3,110	280	68	74
15	334	265	128	114	221	312	1,420	8,090	3,210	250	65	59
16	329	265	163	120	221	312	2,230	7,260	3,100	210	62	50
17	318	255	189	125	218	340	2,380	7,820	3,130	270	57	47
18	302	210	170	125	218	400	2,180	8,180	2,960	245	55	48
19	296	189	125	116	221	394	2,010	6,890	2,580	240	52	55
20	290	180	114	126	221	424	2,380	6,250	2,330	302	50	64
21	285	175	141	130	218	460	2,840	6,160	2,340	296	47	69
22	275	186	95	132	224	520	3,190	6,030	2,610	245	45	76
23	260	210	126	150	235	574	4,130	5,140	2,180	214	51	128
24	250	228	132	*168	255	643	4,450	4,810	1,910	189	44	141
25	245	221	139	170	270	784	3,860	4,730	1,630	172	49	172
26	280	200	139	175	312	880	5,080	5,020	1,380	163	120	175
27	290	212	137	160	352	1,070	4,920	5,120	1,230	128	60	159
28	280	240	*123	175	436	1,260	5,080	6,250	1,080	118	49	204
29	296	240	150	172	448	1,250	4,730	6,290	940	113	54	275
30	285	200	146	178	-	1,010	4,290	5,920	840	116	63	302
31	265	-	148	183	-	906	-	5,700	-	116	70	-
Month	Second-foot-days					Maximum	Minimum	Mean	Run-off in acre-feet			
October.....	9,428					376	245	374	18,700			
November.....	7,510					318	175	237	14,900			
December.....	5,014					265	95	192	9,950			
Calendar year 1939.....	482,968					7,610	55	1,238	918,300			
January.....	4,778					194	114	154	9,480			
February.....	7,230					448	200	249	14,340			
March.....	17,447					1,260	312	553	34,610			
April.....	72,373					5,080	948	2,412	143,500			
May.....	188,370					8,850	2,850	6,076	373,600			
June.....	97,920					6,560	840	3,234	194,200			
July.....	12,125					982	113	371	24,050			
August.....	2,306					121	44	74.4	4,570			
September.....	2,743					302	41	91.4	5,440			
Water year 1939-40.....	427,244					8,850	41	1,197	847,300			

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Dec. 12 to Mar. 6.

Elk River at Clark, Colo.

Location.— Water-stage recorder, lat. 40°43', long. 106°55', in sec. 28, T. 9 N., R. 85 W., at Clark, 1 mile upstream from Cottonwood Gulch.

Drainage area.— 206 square miles.

Records available.— May 1910 to November 1913 and December 1913 to September 1922 (monthly discharge only, published as Elk River near Clark) and October 1933 to September 1940 in reports of Geological Survey. May 1910 to September 1922 and April 1930 to September 1940 in reports of State engineer.

Average discharge.— 22 years, 373 second-feet.

Extremes.— Maximum discharge during year, 2,680 second-feet May 13 (gage height, 4.63 feet); from rating curve extended above 1,900 second-feet; minimum daily, 27 second-feet Jan. 19.

1910-22, 1930-40: Maximum daily discharge, 4,470 second-feet June 6, 9, 1912; minimum discharge observed, 22 second-feet Apr. 7, 1935 (gage height, 0.62 foot).

Remarks.— Records excellent above 100 second-feet and good below, except those for periods of ice effect or no gage-height record, which are fair. Practically no diversion or regulation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	83	72	53	55	37	39	110	435	1,700	360	106	61
2	77	74	50	56	42	40	112	619	1,760	394	83	59
3	74	69	52	58	45	48	102	964	1,740	364	78	54
4	83	68	53	57	43	58	104	1,230	1,670	340	76	62
5	102	69	56	54	41	65	108	1,200	1,480	308	71	51
6	115	82	54	42	42	62	108	1,160	1,310	283	68	47
7	115	75	57	30	38	58	104	1,160	1,070	272	68	46
8	104	66	57	32	38	54	94	1,290	1,030	257	66	46
9	108	75	53	32	40	54	94	1,520	865	240	64	54
10	100	48	53	39	42	56	86	1,630	805	223	62	85
11	94	57	54	32	43	56	82	1,740	858	213	65	62
12	90	65	57	31	37	57	74	1,830	980	195	59	53
13	83	59	54	30	34	64	86	2,180	1,060	185	57	51
14	78	61	59	29	34	72	132	1,590	1,090	182	54	53
15	78	54	59	*28	37	65	195	1,540	1,060	173	52	57
16	77	51	65	29	34	65	221	2,000	1,100	170	51	53
17	75	44	58	34	30	59	221	1,960	988	203	50	57
18	74	48	59	30	31	56	268	1,610	880	218	51	59
19	71	46	57	27	32	56	364	1,460	880	178	52	66
20	68	50	60	32	34	56	475	1,550	872	159	56	62
21	65	54	*64	33	32	57	552	1,190	984	143	56	64
22	65	52	56	28	33	61	569	1,120	768	132	58	102
23	64	52	62	35	33	71	569	1,140	687	126	56	74
24	64	51	56	40	32	77	752	1,210	580	117	56	64
25	64	52	56	38	31	78	850	1,250	530	112	71	61
26	74	56	57	38	31	80	925	1,270	500	102	132	68
27	75	58	56	42	33	82	940	1,470	455	94	117	77
28	64	51	45	45	e31	78	715	1,470	425	100	86	64
29	75	50	47	38	37	72	556	1,350	394	112	75	78
30	58	50	50	33	-	75	425	1,380	364	117	69	108
31	66	-	53	35	-	88	-	1,600	-	100	65	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	2,483	115	58	80.1	4,920
November.....	1,756	82	44	58.5	3,480
December.....	1,724	65	45	55.6	3,420
Calendar year 1939.....	100,272	1,540	34	275	198,900
January.....	1,162	58	27	37.5	2,300
February.....	1,047	45	30	36.1	2,080
March.....	1,959	88	39	63.2	3,890
April.....	9,973	940	74	332	19,780
May.....	42,818	2,180	435	1,381	84,930
June.....	28,755	1,760	364	958	57,030
July.....	6,200	394	94	200	12,300
August.....	2,129	132	50	68.7	4,220
September.....	1,897	108	46	63.2	3,760
Water year 1939-40.....	101,903	2,180	27	278	202,100

*Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of records for Little Snake River at Dixon, Wyo.

Note.— Stage-discharge relation affected by ice Dec. 20 to Mar. 5.

Little Snake River near Dixon, Wyo.

Location.— Water-stage recorder, lat. 41°02', long. 107°32', in sec. 6, T. 12 N., R. 90 W., 800 feet upstream from Willow Creek and 1 mile west of Dixon. Datum of gage is 6,332.81 feet above mean sea level (unadjusted).

Drainage area.— 988 square miles.

Records available.— May 1910 to September 1923, March 1938 to September 1940.

Extremes.— Maximum discharge during year, 3,470 second-feet May 13 (gage height, 5.58 feet); minimum daily, 1.8 second-feet Aug. 18, 19.
1910-23, 1938-40: Maximum discharge observed, 8,960 second-feet May 23, 1920 (gage height, 8.3 feet), from rating curve extended above 6,000 second-feet; minimum daily, 0.6 second-foot Aug. 24-27, 1939.

Remarks.— Records excellent above 30 second-feet and good below, except those for periods of ice effect, which are fair. Diversions above station for irrigation.

Rating table, water year 1939-40, except periods of ice effect (gage height, in feet, and discharge, in second-feet)

0.7	1	1.5	50	2.3	240
.8	2	1.6	62	2.5	325
.9	4	1.7	76	2.8	490
1.0	8	1.8	94	3.4	900
1.1	13	1.9	116	3.7	1,170
1.2	20	2.0	142	4.7	2,330
1.3	29	2.1	172	5.5	3,370

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	62	56	64	74	160	408	678	1,970	23	3.8	4.0
2	12	70	57	61	77	148	442	1,060	1,910	28	3.6	3.6
3	9.5	72	56	60	74	134	289	1,650	1,850	38	3.4	3.6
4	11	69	55	60	74	119	284	2,550	1,680	32	3.0	2.8
5	12	68	60	62	70	114	264	2,640	1,500	24	3.0	2.8
6	14	69	65	60	64	114	316	2,470	1,370	19	3.8	2.6
7	15	72	62	54	68	96	284	2,340	1,150	16	3.8	3.0
8	15	70	66	50	66	105	240	2,370	1,020	14	3.4	3.0
9	14	68	60	56	70	101	252	2,620	840	12	3.0	4.4
10	23	75	60	60	*70	94	276	2,720	741	10	2.6	5.2
11	31	62	66	64	74	96	244	2,860	685	9.5	2.8	6.0
12	28	50	65	*82	74	92	192	2,930	659	9.5	2.0	7.2
13	26	44	59	58	65	87	219	3,320	626	10	2.2	6.8
14	24	50	55	54	62	78	335	2,920	581	10	2.6	7.2
15	22	50	68	50	66	80	548	2,690	529	9.0	2.8	9.5
16	21	52	69	52	62	89	652	2,760	484	9.5	2.6	9.0
17	23	44	65	54	60	107	548	3,060	414	9.0	2.0	11
18	27	47	68	52	66	89	568	2,620	330	9.5	1.8	10
19	43	57	72	46	74	96	755	2,380	268	9.5	1.8	10
20	44	55	58	47	76	105	964	2,360	222	9.0	2.0	14
21	47	55	61	48	71	96	1,110	2,150	198	7.6	2.6	15
22	48	57	46	76	112	192	1,160	2,020	192	7.2	3.0	19
23	44	55	62	50	84	134	916	1,910	163	6.4	3.4	24
24	46	56	54	54	88	169	1,250	1,870	116	6.4	4.8	29
25	47	57	62	60	100	212	1,780	1,930	85	6.8	4.0	21
26	60	62	50	63	110	248	1,800	1,890	58	5.6	5.2	12
27	68	60	48	67	120	315	2,040	2,070	43	4.8	12	11
28	72	52	46	70	130	284	1,650	2,020	37	4.4	12	15
29	62	56	48	74	140	244	1,480	2,020	33	3.4	9.5	12
30	65	58	55	72	-	226	1,070	1,850	26	3.2	7.2	18
31	60	-	60	70	-	289	-	1,920	-	3.6	5.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	1,047.5	72	9.5	33.8	2,080
November.....	1,774	75	44	59.1	3,520
December.....	1,824	72	46	58.8	3,620
Calendar year 1939.....	126,218.5	2,920	.6	346	250,300
January.....	1,800	74	46	58.1	3,570
February.....	2,305	140	80	79.6	4,570
March.....	4,434	315	79	143	8,790
April.....	22,346	2,040	192	745	44,320
May.....	70,848	3,320	878	2,285	140,500
June.....	19,760	1,970	26	659	39,190
July.....	369.9	38	3.2	11.9	734
August.....	124.9	12	1.8	4.03	248
September.....	301.7	29	2.6	10.1	598
Water year 1939-40.....	126,935.0	3,320	1.8	347	251,700

*Winter discharge measurement made on this day.

Note.— Stage-discharge relation affected by ice Dec. 13, 14, Dec. 25 to Mar. 1.

Little Snake River near Lily, Colo.

Location.- Water-stage recorder, lat. 40°32', long. 108°25', in sec. 20, T. 7 N., R. 98 W., 6 miles north of Lily and 10 miles (revised) upstream from mouth.

Drainage area.- 3,730 square miles.

Records available.- June to August 1904, May 1922 to September 1927, and October 1933 to September 1940 in reports of Geological Survey. June to August 1904 and May 1922 to September 1940 in reports of State engineer.

Extremes.- Maximum discharge during year, 3,520 second-feet May 14 (gage height, 4.43 feet); no flow July 26-31, Aug. 1-21, 29-31, Sept. 1-8, 11-19.
1904, 1922-40: Maximum discharge, 14,200 second-feet May 27, 1926 (gage height, 10.5 feet); no flow at times in 1924, 1930, 1931, 1934-36, 1939-40.

Remarks.- Records good except those for period of ice effect, which are fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.2	55	65	31	35	94	340	1,500	1,510	40	0	0
2	.2	46	52	34	40	80	405	1,140	1,720	27	0	0
3	.2	46	55	35	44	90	550	961	1,670	24	0	0
4	.7	44	68	32	44	74	601	1,220	1,560	25	0	0
5	15	48	40	50	39	90	562	2,260	1,740	13	0	0
6	151	55	34	24	32	80	538	2,730	1,600	15	0	0
7	140	55	38	20	37	86	445	2,540	1,430	12	0	0
8	80	52	50	22	34	94	451	2,320	1,310	12	0	0
9	70	60	50	29	31	80	479	2,280	1,160	10	0	2.4
10	48	52	49	28	40	86	422	2,490	1,050	9.0	0	4.8
11	40	55	52	22	35	78	388	2,720	889	7.5	0	0
12	132	55	40	26	31	70	411	2,390	780	7.5	0	0
13	58	55	32	17	29	64	415	2,320	713	5.5	0	0
14	50	58	33	18	36	78	350	1,100	671	3.8	0	0
15	42	48	35	16	35	100	320	3,070	643	3.0	0	0
16	30	46	38	21	33	140	439	2,640	608	1.4	0	0
17	24	23	41	24	26	160	678	2,680	562	3.4	0	0
18	22	20	30	12	32	135	772	2,920	532	1.4	0	0
19	23	28	25	9	40	190	706	2,860	491	1.0	0	0
20	23	44	35	12	45	240	706	2,400	422	.8	0	16
21	22	52	30	14	35	300	872	2,250	366	.6	0	68
22	24	48	21	9	52	366	1,140	2,200	320	.6	.3	72
23	24	50	22	15	60	383	1,290	2,100	282	.5	.1	9.0
24	25	40	26	16	54	394	1,260	1,970	254	.3	.2	5.0
25	26	46	21	13	64	445	1,150	1,880	233	.2	4.1	4.6
26	44	55	18	20	82	468	1,740	1,860	174	0	118	4.6
27	34	52	20	23	72	462	2,090	1,860	132	0		4.2
28	32	52	*15	29	105	508	2,100	1,880	85	0	.7	5.5
29	38	46	17	31	100	562	1,880	1,930	60	0	0	248
30	48	24	21	25	-	550	1,740	1,690	52	0	0	453
31	52	-	26	29	-	422	-	1,620	-	0	0	-
Month	Second-foot-days		Maximum		Minimum		Mean		Run-off in acre-feet			
October.....	1,318.3		151		0.2		42.5		2,610			
November.....	1,410		60		20		47.0		2,800			
December.....	1,099		68		15		35.5		2,180			
Calendar year 1939.....	142,746.1		3,260		0		391		283,100			
January.....	694		35		9		22.1		1,360			
February.....	1,342		105		26		46.3		2,660			
March.....	6,969		562		64		225		13,820			
April.....	25,241		2,100		320		841		50,060			
May.....	68,881		3,100		961		2,222		136,600			
June.....	23,019		1,740		52		767		45,660			
July.....	232.5		40		0		7.50		461			
August.....	123.5		118		0		3.98		245			
September.....	877.1		433		0		29.2		1,740			
Water year 1939-40.....	131,196.4		3,100		0		358		280,200			

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Dec. 9 to Mar. 21.

Slater Fork near Slater, Colo.

Location.- Water-stage recorder, lat. 40°59', long. 107°23', in SW $\frac{1}{4}$ sec. 21, T. 12 N., R. 89 W., about 1 mile upstream from mouth and 1 $\frac{1}{2}$ miles south of Slater.

Drainage area.- 161 square miles.

Records available.- May 1910 to May 1912 and October 1933 to September 1940 in reports of Geological Survey. May 1910 to May 1912 and June 1931 to September 1940 in reports of State engineer.

Extremes.- Maximum discharge during year, 434 second-feet May 17 (gage height, 5.42 feet); minimum daily, 0.5 second-foot Aug. 2, 17.
1910-12, 1931-40: Maximum daily discharge, 1,700 second-feet May 19, 1912; no flow Aug. 2-10, 1934, Aug. 18, 25-27, 1936.

Remarks.- Records good except those below 10 second-feet, which are fair, and those for period of ice effect, which are poor. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	14	12	13	15	29	46	132	267	9.6	0.8	3.2
2	10	14	11	13	16	27	45	162	259	15	.5	2.5
3	9.8	13	10	12	15	25	34	265	254	17	.9	2.1
4	11	13	10	13	14	23	33	337	236	16	1.2	1.7
5	14	13	10	12	13	22	34	345	218	16	1.8	1.5
6	14	14	10	12	13	20	40	345	195	16	1.1	1.4
7	15	14	11	11	13	18	36	332	167	14	2.3	1.4
8	15	14	12	10	14	19	33	302	140	11	1.8	2.4
9	17	14	13	12	14	18	38	306	127	9.4	1.8	2.1
10	17	11	12	13	*14	17	42	297	110	8.1	1.2	7.8
11	17	11	13	14	14	17	35	301	104	7.4	1.4	4.5
12	16	11	11	*14	15	17	30	346	105	6.8	1.6	4.1
13	16	12	10	13	14	16	38	367	112	6.0	1.8	7.5
14	16	12	10	12	12	16	59	376	109	4.3	1.8	12
15	16	11	11	11	13	15	76	320	106	4.2	2.0	8.1
16	16	9.4	12	11	12	*17	84	361	98	4.1	2.3	6.9
17	16	8.4	13	11	12	19	68	379	86	4.9	.5	5.6
18	16	8.4	12	10	12	17	89	310	75	7.8	.7	6.2
19	15	8.4	12	9.4	13	18	139	270	62	6.6	1.4	12
20	15	8.4	13	9.6	14	19	180	262	54	5.4	1.2	10
21	14	9.2	12	9.8	13	19	209	248	50	4.6	1.9	9.8
22	14	9.2	13	9.7	15	19	196	251	47	4.0	1.7	11
23	13	9.0	11	10	16	21	168	206	40	3.2	1.6	13
24	13	8.7	11	11	18	24	251	223	32	3.3	2.1	15
25	12	7.8	10	12	20	26	315	228	27	2.4	3.3	13
26	14	8.7	10	13	22	30	291	254	21	2.1	6.2	14
27	14	9.0	10	14	24	35	309	295	15	1.7	8.7	15
28	13	9.6	10	15	27	32	238	294	15	.9	6.4	15
29	13	8.8	10	15	28	26	211	280	10	.9	4.9	22
30	12	8.2	11	15	-	26	150	267	8.2	1.1	4.2	35
31	13	-	12	14	-	37	-	266	-	1.8	3.8	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						437.8	17	9.8	14.1	868		
November.....						322.2	14	7.8	10.7	639		
December.....						348	13	10	11.2	690		
Calendar year 1939.....						18,399.5	341	1.2	50.4	36,500		
January.....						374.5	15	9.4	12.1	743		
February.....						455	28	12	15.7	902		
March.....						684	37	15	22.1	1,360		
April.....						3,520	318	30	117	6,980		
May.....						8,927	379	132	288	17,710		
June.....						3,147.2	267	8.2	105	6,240		
July.....						215.6	17	.9	6.95	428		
August.....						72.9	8.7	.5	2.35	145		
September.....						266.9	35	1.4	8.90	529		
Water year 1939-40.....						18,771.1	379	.5	51.3	37,230		

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Dec. 12 to Mar. 16.

Ashley Creek near Vernal, Utah

Location.- Water-stage recorder, lat. 40°35', long. 109°37', in sec. 1, T. 3 S., R. 20 E., three-quarters of a mile upstream from head of Utah Power & Light Co.'s canal and 12 miles northwest of Vernal.

Drainage area.- 101 square miles.

Records available.- June 1914 to September 1940. March 1900 to December 1904 (fragmentary), at site just below Dry Fork. October 1911 to June 1914, at power plant 1½ miles downstream.

Average discharge.- 24 years (1914-16, 1918-40), 103 second-feet.

Extremes.- Maximum discharge during year, 703 second-feet May 9 (gage height, 7.78 feet); minimum, 21 second-feet Mar. 2.

1911-40: Maximum discharge, 2,050 second-feet May 29, 1921; minimum discharge recorded, 16 second-feet Mar. 21, 1937.

Remarks.- Records good. Flow is increased by water diverted from Oaks Park Reservoir (capacity, 6,250 acre-feet) on Brush Creek for irrigation in Ashley Creek Basin. No diversions above station.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.			
1	89	77	41	30	24	22	24	122	167	102	35	36			
2	89	75	41	29	24	22	24	184	164	108	34	36			
3	89	74	41	29	24	23	24	317	161	99	34	36			
4	95	75	41	28	24	23	24	414	153	97	33	39			
5	102	74	42	28	24	23	24	396	153	99	32	40			
6	113	72	41	28	24	23	25	365	158	97	33	40			
7	111	70	41	28	24	23	25	353	150	93	33	39			
8	102	68	41	28	24	23	25	365	148	89	36	36			
9	99	72	41	28	24	23	25	451	140	66	33	36			
10	99	60	40	28	24	23	25	495	122	77	31	40			
11	102	59	40	27	24	23	26	441	106	77	30	40			
12	99	59	38	27	23	23	26	409	102	75	30	39			
13	97	57	34	27	23	23	27	396	102	74	30	39			
14	97	57	36	27	23	23	30	361	97	72	30	39			
15	97	57	35	27	23	23	30	344	93	70	30	40			
16	97	54	35	27	23	23	34	320	93	68	32	42			
17	95	52	35	27	23	23	34	294	93	72	33	41			
18	93	52	33	26	23	24	34	268	91	53	32	44			
19	89	50	30	26	23	24	49	232	89	46	32	52			
20	89	50	30	26	23	24	93	220	83	46	34	56			
21	87	50	30	26	23	24	149	223	85	45	34	57			
22	85	50	30	25	23	24	145	210	104	62	35	60			
23	85	50	30	25	24	24	153	195	118	72	40	60			
24	83	50	30	24	24	25	216	181	115	59	41	60			
25	81	50	31	24	23	24	232	167	113	50	45	60			
26	79	49	31	24	23	25	235	161	104	44	46	63			
27	79	49	30	24	23	26	195	204	75	41	46	63			
28	77	49	30	24	23	26	136	210	104	38	44	81			
29	77	46	30	24	22	24	130	192	102	36	41	93			
30	74	42	30	24	-	25	120	169	99	35	40	95			
31	77	-	30	24	-	24	-	153	-	35	38	-			
Month						Second-foot-days		Maximum		Minimum		Mean		Run-off in acre-feet	
October.....						2,827		113		74		91.2		5,610	
November.....						1,749		77		42		58.3		3,470	
December.....						1,088		42		30		35.1		2,160	
Calendar year 1939.....						31,685		531		30		86.8		62,840	
January.....						819		30		24		26.4		1,620	
February.....						679		24		22		23.4		1,350	
March.....						732		26		22		23.6		1,450	
April.....						2,337		235		24		77.9		4,640	
May.....						8,802		495		122		284		17,460	
June.....						3,484		167		75		116		6,910	
July.....						2,066		108		35		66.6		4,100	
August.....						1,097		46		30		35.4		2,180	
September.....						1,502		95		36		50.1		2,980	
Water year 1939-40.....						27,182		495		22		74.3		53,930	

Duchesne River at Provo River Trail, near Hanna, Utah

Location.- Water-stage recorder, lat. 40°37', long. 110°54', in SE¼ sec. 27, T. 3 N., R. 9 W., Uinta meridian, 400 feet downstream from Provo River Trail bridge, 7 miles upstream from Hades Creek, and 12 miles northwest of Hanna. Altitude of gage, 8,120 feet (from topographic map).

Drainage area.- 39 square miles.

Records available.- July 1929 to September 1933, October 1935 to September 1940.

Extremes.- Maximum discharge during year, 566 second-feet May 15 (gage height, 3.05 feet); minimum discharge recorded, 2 second-feet Dec. 5, but may have been less during period of ice effect.
1929-33, 1935-40: Maximum discharge recorded, 888 second-feet June 24, 1932; minimum recorded, 1 second-foot Aug. 30, 1931.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Records show flow of river at proposed diversion tunnel to Provo River. No diversions above station.

Cooperation.- Water-stage recorder graph and five discharge measurements furnished by Bureau of Reclamation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	a9	4				a8	35	a230	39	7	5
2	12	a9	4				a8	49	a190	30	6	5
3	13	9	3				a8	72	a160	25	6	9
4	15	8	3				a8	88	a140	24	6	14
5	16		3				a8	83	a130	23	6	16
6	18		3				a8	86	a100	21	6	9
7	19		3				a8	101	a90	19	6	8
8	14		3				a8	131	a85	18	6	8
9	14		4				a8	192	a70	17	6	8
10	14		4				a8	251	a66	16	5	9
11	14		4				a8	343	a64	15	5	8
12	14						a10	411	a64	14	5	8
13	14						a12	443	a62	14	5	13
14	14						a16	436	61	13	5	12
15	a14						21	477	60	13	5	10
16	a13	a6		b3	b3	a5	18	530	56	16	6	8
17	a13						18	498	51	16	5	9
18	a13						24	456	49	14	5	14
19	a13						33	392	46	13	6	14
20	a12						41	369	44	12	8	25
21	a12		b3				44	343	41	11	7	24
22	a12						44	340	38	10	6	24
23	a12						47	351	35	9	6	19
24	a12						50	347	33	9	6	16
25	a11						52	340	30	9	8	16
26	a11						50	376	28	8	9	16
27	a12						44	340	27	8	7	16
28	a11	5					40	a300	25	8	6	38
29	a10	4					37	a250	24	8	6	41
30	a10	-					33	a240	31	8	5	40
31	a10	-					-	a240	-	7	5	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	396	16	10	12.8	785
November.....	186	9	4	6.2	369
December.....	98	-	-	3.2	194
Calendar year 1939.....	15,094	333	-	41.4	29,940
January.....	93	-	-	3.0	184
February.....	97	-	-	3.0	173
March.....	155	-	-	5.0	307
April.....	722	52	8	29.1	1,430
May.....	8,909	530	35	287	17,670
June.....	2,130	230	24	7.0	4,220
July.....	467	39	7	15.1	926
August.....	106	9	5	6.0	369
September.....	461	41	5	15.4	914
Water year 1939-40.....	13,890	530	-	38.0	27,540

a No gage-height record; discharge computed on basis of records for Duchesne River near Tabiona and Rock Creek near Mountain Home.

b Stage-discharge relation affected by ice.

Duchesne River near Tabiona, Utah

Location.- Water-stage recorder, lat. $40^{\circ}18'$, long. $110^{\circ}36'$, in SW $\frac{1}{4}$ sec. 17, T. 2 S., R. 6 W., Uinta meridian, at bridge on State Highway 35, $5\frac{1}{2}$ miles upstream from Rock Creek and 8 miles southeast of Tabiona.

Drainage area.- 352 square miles.

Records available.- January 1919 to September 1940.

Average discharge.- 21 years, 205 second-feet.

Extremes.- Maximum discharge during year, 1,060 second-feet May 16 (gage height, 6.25 feet); minimum, 50 second-feet July 31.

1919-40: Maximum discharge observed, 2,500 second-feet June 13, 1921; minimum recorded, 27 second-feet Oct. 17, 1934.

Remarks.- Records good except those for periods of ice effect, which are fair. Several diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	105	95	98	88	b90	90	91	97	555	123	53	60
2	109	95	98	87	89	82	93	98	325	113	53	62
3	113	93	93	92	84	84	88	113	302	102	54	90
4	156	95	93	87	84	86	90	161	268	93	55	81
5	142	95	90	90	81	86	92	192	255	85	55	80
6	151	98	88	86	b80	82	92	200	245	84	56	72
7	123	98	93	82	b82	81	92	197	214	80	56	71
8	128	97	93	90	81	87	86	242	203	75	56	71
9	119	98	92	90	b80	86	88	352	189	76	56	68
10	115	95	90	88	b80	84	90	499	173	80	54	66
11	115	93	90	87	82	82	88	644	159	78	54	66
12	115	93	84	90	80	78	87	751	138	76	55	68
13	115	93	87	81	b80	81	86	854	127	76	56	80
14	115	93	87	b80	b78	78	97	854	111	74	63	86
15	115	90	87	b78	b80	80	105	906	100	75	66	82
16	115	87	92	b78	b82	84	105	901	90	75	62	75
17	115	86	87	b80	81	84	98	946	74	78	61	78
18	113	86	87	b78	b81	81	87			74	60	88
19	113	87	87	b75	81	82	107	793	78	72	66	106
20	109	90	87	b78	81	84	119	715	82	70	60	177
21	109	90	84	b80	84	87	125	688	76	66	63	140
22	109	90	84	b78	86	90	129	595	75	64	63	127
23	105	92	86	b80	84	92	136	605	71	62	59	129
24	102	87	87	b80	82	98	147	589	72	60	58	125
25	104	86	84	b84	82	100	171	563	85	60	71	127
26	109	88	81	b86	87	100	168	574	90	58	68	125
27	111	92	b78	b80	87	102	149	589	105	58	62	123
28	109	90	b80	b82	87	102	145	514	104	58	61	178
29	111	86	b82	b88	88	95	129	444	102	57	61	171
30	109	88	b86	b86	-	92	107	409	107	57	61	181
31	105	-	b90	b88	-	93	-	384	-	54	61	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						3,561	156	102	115	7,080		
November.....						2,746	98	86	91.5	5,450		
December.....						2,725	98	78	87.9	5,400		
Calendar year 1939.....						56,243	769	55	154	111,600		
January.....						2,617	92	75	84.4	5,190		
February.....						2,403	90	78	82.9	4,770		
March.....						2,713	102	78	87.5	5,380		
April.....						3,301	171	86	110	6,560		
May.....						16,420	991	97	530	32,570		
June.....						4,463	355	71	149	8,850		
July.....						2,318	123	54	74.8	4,800		
August.....						1,868	88	53	60.3	3,700		
September.....						3,053	161	60	102	6,060		
Water year 1939-40.....						48,188	991	53	131	95,580		

b Stage-discharge relation affected by ice.

Duchesne River at Duchesne, Utah

Location.— Water-stage recorder, lat. 40°09'55", long 110°23'50", in SW¼NE¼ sec. 1, T. 4 S., R. 5 W., Uinta meridian, at Duchesne, half a mile upstream from Strawberry River.

Drainage area.— 660 square miles.

Records available.— December 1917 to September 1940.

Average discharge.— 23 years, 371 second-feet.

Extremes.— Maximum discharge during year, 2,330 second-feet May 16 (gage height, 4.35 feet); minimum, 49 second-feet Sept. 2.
1917-40: Maximum discharge observed, 4,420 second-feet June 10, 1922 (gage height, 8.65 feet, site and datum then in use); minimum observed, 15 second-feet July 11, 1931.

Remarks.— Records good except those for period of ice effect, which are fair. Discharge above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	160	144	144	206		166	150	126	698	203	56	51
2	173	141	150	193		150	153	123	660	182	56	51
3	186	135	147	176		147	147	144	594	157	63	76
4	243	129	144	173		147	141	196	528	141	61	103
5	243	132	144	169		141	129	254	482	132	63	126
6		213	132	135	163	132	117	278	447	123	68	109
7		206	132	138	141	135	111	266	419	111	73	100
8		206	132	141	144	138	111	339	387	106	71	97
9		206	129	138	176	141	117	464	377	96	68	92
10		189	132	138	166	138	120	698	353	103	79	89
11	182	117	138	157	b160	147	117	991	339	100	73	81
12	179	126	135	153		135	114	1280	312	97	61	81
13	179	126	129	141		129	106	1500	303	96	68	96
14	179	123	135	109		135	111	1640	282	92	63	109
15	179	123	138			135	129	1820	254	92	71	106
16	179	117	144			135	141	2050	239	95	76	96
17	179	114	144			135	129	1930	220	111	68	103
18	182	114	141			138	114	1660	203	111	66	144
19	176	120	126			135	126	1440	182	109	71	344
20	163	129	120			135	141	1300	179	97	73	306
21	160	132	129			135	150	1280	163	92	63	303
22	160	132	120		153	138	160	1100	157	84	76	270
23	153	129	117	b160	166	135	157	1110	141	79	76	246
24	138	129	150		157	144	173	1140	132	76	64	217
25	135	128	144		157	150	199	1100	147	71	97	210
26	147	126			157	153	210	1110	141	68	92	213
27	147				163	163	196	1180	160	68	84	203
28	144		117		163	160	189	1050	157	68	66	278
29	147	136	123		166	157	166	853	150	68	58	377
30	150	135	166		-	150	141	773	163	66	56	353
31	147	-	196		-	147	-	748	-	63	53	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	5,430	243	135	175	10,770
November.....	3,667	144	114	129	7,670
December.....	4,251	196	106	137	8,430
Calendar year 1939.....	90,705	1,200	53	248	179,900
January.....	4,987	-	-	161	9,890
February.....	4,842	-	-	160	9,210
March.....	4,432	166	129	145	8,790
April.....	4,265	210	108	142	8,460
May.....	29,963	2,050	123	967	59,430
June.....	8,967	698	132	299	17,790
July.....	3,155	203	63	102	6,260
August.....	2,141	97	53	69.1	4,250
September.....	5,030	377	51	168	9,980
Water year 1939-40.....	81,130	2,060	51	222	160,900

b Stage-discharge relation affected by ice.

Duchesne River at Myton, Utah

Location.- Water-stage recorder, lat. 40°12', long. 110°03', in NW¼ sec. 25, T. 3 S., R. 2 W., Uinta meridian, at Myton, 3 miles downstream from Lake Fork.

Drainage area.- 2,750 square miles.

Records available.- October 1899 to November 1910, July 1911 to September 1940.

Average discharge.- 32 years (1899-1902, 1911-40), 630 second-feet.

Extremes.- Maximum discharge during year, 1,980 second-feet Sept. 29 (gage height, 3.98 feet); minimum, 3 second-feet July 27.

1899-1940: Maximum discharge observed, 12,800 second-feet June 10, 1922 (gage height, 7.94 feet), from rating curve extended above 8,000 second feet; minimum, less than 1 second-foot July 16, 1931, and on several days in August and September 1934.

Remarks.- Records good except those for period of ice effect, which are fair. Large diversions above station for irrigation. Flow affected by reservoirs above station.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	156	175	218			b420	156	66	556	20	5	4
2	144	167	246			b410	159	59	543	12	5	4
3	167	152	237			b400	156	54	493	9	5	92
4	275	129	227			b380	140	54	428	8	6	86
5	309	144	227			b360	122	171	394	11	6	61
6	294	148	214			335	106	346	394	9	6	38
7	270	144	218			320	102	265	359	8	5	35
8	275	152	227			330	98	206	378	9	5	29
9	284	152	223			351	137	270	346	7	5	29
10	265	148	223			304	167	481	314	5	5	22
11	232	140	205			304	159	745	255	5	4	20
12	218	140	184			270	148	1,080	223	6	4	17
13	218	148	175	(*)		241	140	1,280	209	6	4	22
14	214	152	192			260	133	1,410	188	6	4	79
15	209	156	192	b240	b250	270	156	1,500	156	6	4	196
16	206	148	201			289	218	1,660	122	6	4	89
17	201	144	241			289	227	1,700	96	7	4	49
18	201	159	237			265	176	1,580	80	9	5	56
19	201	180	201			241	175	1,440	72	10	4	207
20	218	205	214			237	167	1,270	49	9	4	234
21	196	223	256			218	156	1,130	44	8	4	660
22	184	223	223		(*)	196	175	992	78	9	4	340
23	196	218	192			192	119	936	340	11	6	294
24	201	227	246			171	105	944	280	8	9	275
25	192	218	255			171	83	944	105	6	5	237
26	209	214	205			171	102	904	33	4	6	241
27	218	237	175			180	122	976	96	4	6	223
28	209	246	156			192	119	912	66	4	6	416
29	192	237	196			184	133	776	8	4	5	1,250
30	188	214	b240		-	171	83	647	12	5	6	858
31	184	-	b270		-	159	-	581	-	6	7	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						6,725	309	144	217	13,340		
November.....						5,340	246	124	178	10,590		
December.....						6,715	270	156	217	13,320		
Calendar year 1939.....						109,486	1,200	7	300	217,200		
January.....						7,440	-	-	240	14,760		
February.....						7,250	-	-	250	14,500		
March.....						8,281	420	159	267	16,430		
April.....						4,237	227	63	141	8,400		
May.....						25,357	1,700	54	518	50,290		
June.....						6,745	556	8	225	13,380		
July.....						237	20	1	7.6	470		
August.....						159	9	1	5.1	315		
September.....						6,172	1,250	1	206	12,240		
Water year 1939-40.....						84,668	1,700	1	232	167,900		

*Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

GREEN RIVER BASIN

Rock Creek near Mountain Home, Utah

Location.- Water-stage recorder, lat. 40°30', long. 110°35', in SW¼ sec. 9, T. 1 N., R. 6 W., Uinta meridian, at Lower Stillwater dam site "B", a third of a mile upstream from Corral Creek, 7 miles downstream from South Fork, and 12 miles northwest of Mountain Home.

Drainage area.- 149 square miles.

Records available.- November 1937 to September 1940.

Extremes.- Maximum discharge during year, 1,200 second-feet May 16 (gage height, 4.71 feet); minimum, 7 second-feet Mar. 13, probably caused by ice jams above station.
1939-40: Maximum discharge observed, 1,790 second-feet June 4, 1939 (gage height, 11.19 feet, site and datum then in use); minimum discharge, that of Mar. 13, 1940.

Remarks.- Records good except those for periods of ice effect, which are fair. No diversions above station.

Cooperation.- Water-stage recorder graph and seven discharge measurements furnished by Bureau of Reclamation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	74	66	46	33	34	37	43	80	462	124	49	39
2	85	64	43	33	34	33	44	96	434	111	48	39
3	89	62	42	32	34	37	42	129	386	103	47	48
4	108	62	42	33	34	34	42	172	338	97	47	72
5	99	63	42	32	34	36	42	178	317	95	45	79
6	100	61	42	29	34	34	44	163	280	88	46	62
7	97	57	42	35	35	34	41	183	258	85	50	61
8	95	57	43	33	34	36	45	220	282	82	51	61
9	92	62	43	33	34	34	42	285	234	80	51	59
10	86	48	43	34	b34	36	44	413	222	77	49	60
11	85	55	43	34	b33	36	44	563	222	75	46	58
12	81	55	36	33	32	34	43	696	217	70	44	60
13	82	53	40	b32	b31	33	46	812	215	71	44	71
14	82	52	39	b30	b32	32	53	836	208	69	44	80
15	81	50	37	b29	b32	34	60	950	198	69	45	76
16	80	46	37	b31	33	35	56	1,070	187	79	47	68
17	79	47	37	b30	34	36	51	1,000	172	92	44	70
18	79	45	35	b28	34	35	55	902	153	79	41	96
19	75	44	30	b28	33	37	64	806	157	77	44	106
20	72	49	33	b29	33	37	79	723	151	68	50	176
21	72	50	31	b30	33	38	88	712	144	65	49	180
22	71	47	29	b29	34	39	90	623	136	61	49	178
23	71	50	28	b28	33	40	96	669	129	58	46	155
24	70	48	30	b29	34	42	102	685	122	54	47	131
25	72	47	28	b30	34	44	108	669	116	53	50	124
26	71	46	27	b32	35	53	108	690	109	50	54	128
27	68	49	b26	34	36	52	99	669	106	49	47	119
28	64	48	b25	34	36	45	95	576	100	49	43	200
29	70	44	b27	33	37	42	88	496	96	48	42	234
30	63	42	b29	33	-	42	81	474	106	49	39	210
31	68	-	b31	34	-	42	-	477	-	49	38	-
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....							2,481	108	63	80.0	4,920	
November.....							1,569	66	42	52.3	3,110	
December.....							1,108	46	25	35.7	2,190	
Calendar year 1939							44,955	673	25	123	89,140	
January.....							977	35	28	31.5	1,940	
February.....							980	37	31	33.8	1,940	
March.....							1,179	53	32	38.0	2,340	
April.....							1,931	108	41	64.4	3,830	
May.....							17,017	1,070	80	549	33,750	
June.....							6,237	462	96	208	12,370	
July.....							2,276	124	48	73.4	4,510	
August.....							1,436	54	38	46.3	2,850	
September.....							3,100	234	39	103	6,150	
Water year 1939-40							40,289	1,070	25	110	79,900	

b Stage-discharge relation affected by ice.

Strawberry River at Duchesne, Utah

Location.- Staff gage, lat. 40°10', long. 110°25', in SW¼ sec. 2, T. 4 S., R. 5 W., Uinta meridian, at bridge three-quarters of a mile west of Duchesne and 1½ miles upstream from mouth.

Drainage area.- 1,040 square miles.

Records available.- June 1908 to November 1910, March 1914 to September 1940.

Average discharge.- 26 years (1914-40), 165 second-feet.

Extremes.- Maximum discharge observed during year, 810 second-feet Sept. 15 (gage height, 6.3 feet); minimum observed, 14 second-feet Aug. 12-15, 22, 23, 1908-10, 1914-40: Maximum discharge observed, 3,230 second-feet May 27, 1922, from rating curve extended above 1,500 second-feet; minimum observed, 1 second-foot on several days in July 1931.

Remarks.- Records fair. Gage read twice daily. Diversions above station for irrigation. Water diverted from Strawberry Valley Reservoir (capacity, 250,000 acre-feet) to Great Salt Lake Basin.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	50	53	64			b130	71	129	72	39	19	19
2	54	54	66			b135	71	129	65	38	18	19
3	56	53	64			142	71	123	62	35	15	36
4	89	53	b64			142	71	117	61	34	19	47
5	90	54	b66			119	71	142	59	33	18	42
6		54	68			98	71	144	59	28	19	40
7	59	54	66			91	71	155	58	27	20	38
8	59	54	71			86	71	148	57	26	20	42
9	64	54	66			74	71	146	57	25	20	38
10	57	56	71			71	72	148	57	24	18	38
11	56	56	66			70	74	153	54	27	18	36
12	54	57	72	(*)		62	79	160	50	26	15	109
13	54	58	64			58	86	157	48	26	15	102
14	53	58	71			61	98	155	44	23	14	102
15	52	57	74	b60	b60	65	123	153	39	20	15	364
16	53	64	71			65	121	151	38	22	17	71
17	50	64	79			66	113	146	38	65	18	68
18	49	65	89			65	117	142	44	38	18	142
19	49	65	84			61	111	131	44	31	29	74
20	52	65	79			61	111	123	46	29	19	246
21	53	70	80			64	113	119	48	28	20	274
22	53	68	77		(*)	68	115	115	48	27	15	107
23	53	71	72			70	115	111	46	26	37	113
24	50	70	64			71	123	104	41	21	30	76
25	53	68	65			71	131	96	38	17	32	68
26	53	70	b64			71	140	94	37	19	32	62
27	53	68	b62			80	146	92	35	19	26	61
28	53	66	b62			82	140	89	31	22	27	76
29	53	62	b64			76	133	87	28	20	24	266
30	53	68	b68		-	71	131	86	32	20	21	135
31	53	-	b70		-	71	-	80	-	19	20	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						1,745	90	49	55.3	3,460		
November.....						1,629	71	53	61.0	3,630		
December.....						2,165	89	62	69.8	4,290		
Calendar year 1939.....						33,744	800	20	92.4	66,940		
January.....						1,860	-	-	60	3,690		
February.....						1,740	-	-	60	3,450		
March.....						2,517	142	58	81.2	4,990		
April.....						3,031	146	71	101	6,010		
May.....						3,925	160	80	127	7,790		
June.....						1,436	72	28	47.9	2,850		
July.....						824	65	17	27.5	1,690		
August.....						648	37	14	20.9	1,290		
September.....						2,011	364	19	97.0	5,770		
Water year 1939-40.....						24,661	364	14	67.4	48,910		

*Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Currant Creek near Fruitland, Utah

Location.— Water-stage recorder, lat. 40°12', long. 110°54', in SE $\frac{1}{4}$ sec. 21, T. 3 S., R. 9 W., Uinta meridian, 200 feet downstream from Deep Creek, 250 feet downstream from bridge on U. S. Highway 40, and 3 $\frac{1}{2}$ miles southwest of Fruitland.

Drainage area.— 142 square miles.

Records available.— January 1935 to September 1940.

Extremes.— Maximum discharge during year, 189 second-feet Sept. 20 (gage height, 2.22 feet); minimum daily, 5 second-feet Aug. 19.

1935-40: Maximum discharge observed, 370 second-feet May 16, 1938 (gage height, 3.15 feet); minimum daily, that of Aug. 19, 1940.

Remarks.— Records excellent except those for periods of ice effect, which are fair.

Currant Creek feeder canal, constructed by Bureau of Reclamation in 1936, diverts water from the headwaters of Currant Creek to Strawberry Reservoir, from which it is further diverted through Strawberry tunnel to the Great Basin for irrigation in Strawberry Valley Project.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	21	21	21	b19	24	32	47	36	21	9	8
2	21	21	21	21	b20	21	32	52	35	20	8	8
3	22	21	21	21	b19	23	29	64	34	16	8	10
4	32	21	21	21	b20	21	28	77	34	14	8	14
5	28	21	20	21	b19	23	28	71	34	14	8	16
6	26	21	21	18	b19	21	29	66	35	13	8	14
7	24	21	21	15	b19	21	29	66	33	11	8	14
8	24	21	21	22	b20	22	29	68	30	10	9	14
9	24	21	20	21	b19	23	30	74	29	10	9	12
10	23	21	20	22	b19	23	32	77	28	9	8	12
11	21	21	20	21	b20	21	32	74	27	9	8	12
12	21	20	17	21	b19	20	32	71	24	9	7	12
13	21	21	18	18	b17	20	34	70	24	9	7	15
14	20	21	19	b17	b18	20	40	66	23	9	7	15
15	20	20	18	b16	b19	21	44	65	21	10	7	14
16	20	20	20	b15	b19	23	42	65	20	11	8	14
17	20	18	20	b16	b20	24	38	61	19	14	8	15
18	20	18	17	b15	b20	22	39	58	18	14	7	18
19	20	18	14	b12	b20	24	45	55	18	14	5	19
20	20	20	18	b14	b21	24	52	53	17	14	7	35
21	20	20	15	b16	b20	26	54	50	16	12	6	21
22	20	19	15	b14	23	28	54	48	16	10	8	19
23	21	20	16	b15	22	30	53	47	16	10	8	17
24	21	20	18	b15	21	32	62	45	14	9	10	14
25	21	19	16	b16	21	34	76	44	14	9	10	14
26	24	20	14	b18	23	35	70	44	14	8	10	14
27	23	21	b13	b18	24	39	59	44	14	8	10	14
28	22	21	b13	b19	24	35	55	42	13	7	9	27
29	22	21	b15	b18	24	32	50	44	13	8	8	20
30	22	19	b18	b18	-	31	49	41	14	8	8	18
31	21	-	b20	b18	-	32	-	39	-	9	8	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						684	32	20	27.1	1,360		
November.....						607	21	18	27.2	1,200		
December.....						561	21	13	18.1	1,110		
Calendar year 1939.....						13,439	144	10	37.8	26,640		
January.....						553	22	12	17.8	1,100		
February.....						589	24	17	27.3	1,170		
March.....						795	39	20	25.6	1,580		
April.....						1,278	76	28	43.6	2,530		
May.....						1,788	77	39	57.7	3,550		
June.....						683	36	13	22.8	1,350		
July.....						349	21	7	11.3	692		
August.....						249	10	5	8.0	494		
September.....						469	35	8	15.6	930		
Water year 1939-40.....						8,604	77	5	25.6	17,070		

b Stage-discharge relation affected by ice.

Uinta River near Neola, Utah

Location.- Water-stage recorder, lat. 40°32', long. 110°04', in SW⁴ sec. 25, T. 2 N., R. 2 W., Uinta meridian, 600 feet downstream from bridge, 1 mile upstream from Pole Creek, and 7 miles north of Neola.

Drainage area.- 181 square miles.

Records available.- July 1921 to September 1927 (fragmentary), September 1929 to September 1940.

Average discharge.- 12 years (1925-26, 1929-40), 154 second-feet.

Extremes.- Maximum discharge during year, 714 second-feet May 10 (gage height, 2.41 feet); minimum discharge recorded, 39 second-feet Mar. 14 (during period of ice effect).

1929-40: Maximum discharge, 2,240 second-feet June 5, 1938 (gage height, 3.33 feet, site and datum then in use), from rating curve extended above 1,300 second-feet; minimum discharge recorded, 38 second-feet Sept. 17-19, 1933, but may have been less during periods of ice effect.

Maximum discharge known, more than 3,000 second-feet June 9, 1922 (not determined more exactly because of unstable channel conditions).

Remarks.- Records good except those for periods of ice effect, which are fair. Water diverted from Pole Creek and used at Uinta Power & Light Co.'s plant enters river 500 feet above station. Summer flow slightly regulated by storage in several small mountain lakes and reservoirs.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Jul.	Aug.	Sept.
1	200	121	83	70	60	60	62	121	238	162	79	70
2	211	119	82	69	60	59	66	137	232	146	79	72
3	208	117	82	69	61	60	64	235	214	139	82	82
4	226	115	80	67	61	58	61	351	197	144	86	101
5	211	113	82	66	60	60	61	324	202	134	88	128
6	214	110	80	66	61	58	61	278	178	126	88	103
7	202	108	80	60	61	58	60	324	165	124	91	96
8	197	104	79	67	60	59	60	362	172	121	91	94
9	191	108	80	67	b59	59	60	489	166	117	86	94
10	180	93	79	65	60	60	60	575	160	117	85	91
11	175	99	77	65	60	59	60	560	165	113	80	90
12	170	98	73	66	b59	56	59	466	172	117	79	101
13	162	96	74	65	b56	b54	60	480	172	117	77	115
14	162	94	73	b63	b57	b55	65	398	183	117	79	121
15	155	90	69	b61	b58	56	69	440	186	117	80	113
16	153	86	73	b59	b58	60	66	475	178	122	80	106
17	148	88	72	b59	b57	60	64	427	175	124	77	110
18	150	82	65	b58	b58	60	70	332	168	130	73	150
19	141	85	64	b56	b59	61	110	310	168	124	80	175
20	141	88	64	b57	b58	61	121	278	172	119	82	229
21	141	86	61	b58	b57	62	130	278	168	110	82	264
22	139	86	b60	b57	b59	65	141	254	162	108	80	238
23	137	88	b59	b57	b60	65	150	254	158	106	88	220
24	134	85	b61	b59	60	65	168	248	153	106	86	200
25	132	85	b62	b61	61	66	180	251	146	99	96	200
26	130	83	b60	b62	61	66	165	288	144	94	103	208
27	128	88	b60	b62	62	74	150	285	137	96	91	188
28	124	86	b57	61	62	67	141	261	137	93	85	370
29	122	82	b60	61	62	64	132	229	139	83	79	494
30	119	82	b64	60	-	62	122	217	146	82	76	432
31	121	-	b68	60	-	61	-	241	-	80	74	-
Month						Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet	
October.....						5,024		226	119	162	9,960	
November.....						2,865		121	82	95.5	5,680	
December.....						2,183		83	57	70.4	4,330	
Calendar year 1939.....						55,200		822	-	151	109,500	
January.....						1,933		70	56	62.4	3,830	
February.....						1,726		62	56	59.5	3,420	
March.....						1,890		74	54	61.0	3,760	
April.....						2,838		160	59	94.6	5,630	
May.....						10,168		575	121	328	20,170	
June.....						5,152		238	137	172	10,220	
July.....						3,587		162	80	116	7,110	
August.....						2,682		103	73	83.3	5,120	
September.....						5,055		494	70	168	10,030	
Water year 1939-40.....						45,003		575	54	123	89,250	

b Stage-discharge relation affected by ice.

GREEN RIVER BASIN

Whiterocks River near Whiterocks, Utah

Location.- Water-stage recorder, lat. 40°34', long 109°56', in SW¼ sec. 18, T. 2 N., R. 1 E., Uinta meridian, 25 feet downstream from bridge, three-quarters of a mile upstream from heading of United States Whiterocks and Farm Creek canals, and 6½ miles north of Whiterocks.

Drainage area.- 115 square miles.

Records available.- August 1921 to September 1928, February 1930 to September 1940.

September 1899 to August 1904 and April 1907 to November 1910 at site nearby. November 1917 to June 1921, at site downstream from point of diversion of United States Whiterocks canal and above that of Farm Creek canal; records equivalent if flow of Whiterocks canal is included.

Average discharge.- 16 years (1899-1903, 1908-10, 1930-40), 118 second-feet.

Extremes.- Maximum discharge during year, 535 second-feet May 3 (gage height, 3.00 feet); minimum discharge recorded, 21 second-feet Mar. 6, but may have been less during periods of ice effect.

1921-28, 1930-40: Maximum discharge, 2,750 second-feet June 21, 1922, from rating curve extended above 1,700 second-feet; minimum discharge recorded, 10 second-feet Dec. 5, 1933 (revised), but may have been less during periods of ice effect.

Remarks.- Records good except those for periods of ice effect, which are fair. Flow slightly regulated by storage in small mountain lakes.

Rating table, water year 1939-40, except periods of ice effect (gage height, in feet, and discharge, in second-feet)

0.90	20	1.40	60	2.20	218
1.00	26	1.60	86	2.40	281
1.10	33	1.80	121	2.60	355
1.20	41	2.00	165		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	125	75	49	b42	b31	30	32	71	127	65	34	43
2	127	71	46	b43	31	29	35	108	123	65	33	43
3	132	70	46	b42	32	30	32	272	121	58	33	48
4	147	70	46	40	32	27	34	344	119	53	38	58
5	140	68	46	39	b31	28	33	281	121	52	39	83
6	138	67	46	38	b29	28	33	239	123	48	38	62
7	138	65	45	b34	b30	29	32	233	123	46	40	57
8	129	62	44	b37	30	28	32	242	112	50	39	55
9	127	62	43	b36	b29	27	32	299	104	47	35	55
10	123	53	44	35	b29	b27	32	328	99	50	35	56
11	117	56	43	36	b27	b26	32	299	96	50	34	53
12	115	55	39	34	b25	b24	31	268	94	50	33	58
13	115	53	43	b33	b23	b25	34	281	92	49	32	64
14	115	52	40	b31	b24	b26	39	233	91	48	33	66
15	115	50	41	b29	b25	b27	40	233	89	49	39	64
16	112	48	42	b30	b25	28	39	221	89	54	39	57
17	110	48	39	b30	b25	29	35	212	86	55	37	60
18	106	47	37	b28	b26	30	38	185	86	56	35	94
19	102	48	36	b25	b27	31	52	168	88	52	39	117
20	97	52	b40	b27	b26	31	71	156	86	50	44	125
21	92	50	b38	b27	b25	32	112	154	88	47	43	154
22	89	48	b36	b25	b27	32	127	144	88	46	44	127
23	88	49	b35	b26	28	33	142	132	85	45	56	115
24	85	48	b36	b27	28	33	170	125	82	43	53	108
25	82	47	b37	b27	28	34	175	123	80	43	60	115
26	82	47	b36	b28	30	34	149	132	79	43	70	134
27	80	49	b35	b30	30	39	121	149	60	41	56	127
28	78	47	b33	b30	30	34	97	142	57	39	50	242
29	76	44	b35	b30	30	31	86	142	56	37	46	310
30	73	46	b38	b29	-	32	75	136	60	37	44	288
31	78	-	b40	b30	-	32	-	132	-	35	43	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						3,333	147	73	108	6,610		
November.....						1,648	75	44	54.9	3,270		
December.....						1,254	49	33	40.5	2,490		
Calendar year 1939						34,747	500	-	95.2	68,920		
January.....						998	43	25	32.2	1,980		
February.....						813	32	23	28.0	1,610		
March.....						926	39	24	29.9	1,840		
April.....						1,992	175	31	66.4	3,960		
May.....						6,184	344	71	199	12,270		
June.....						2,806	127	56	93.5	5,570		
July.....						1,506	65	35	48.6	2,990		
August.....						1,294	70	32	41.8	2,570		
September.....						3,038	310	43	101	6,030		
Water year 1939-40						25,792	344	23	70.5	51,180		

b Stage-discharge relation affected by ice.

White River near Meeker, Colo.

Location.- Water-stage recorder, lat. 40°02', long. 107°52' in sec. 30, T. 1 N., R. 93 W., 1 mile upstream from Curtis Creek and $3\frac{1}{4}$ miles east of Meeker.

Drainage area.- 762 square miles.

Records available.- May 1901 to October 1906 and May 1910 to November 1913 (at site $2\frac{1}{2}$ miles downstream), and October 1933 to September 1940 in reports of Geological Survey. May 1901 to October 1906 and May 1910 to September 1940 in reports of State engineer.

Average discharge.- 35 years, 642 second-feet.

Extremes.- Maximum discharge during year, 2,740 second-feet May 13 (gage height, 3.52 feet); minimum daily, 202 second-feet Aug. 18, 19.

1901-6, 1910-40: Maximum daily discharge, 6,070 second-feet June 16, 1921; minimum daily, 112 second-feet July 17, 1934.

Remarks.- Records excellent except those for periods of ice effect, which are good. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	345	325	310	305	b290	300	355	591	2,120	477	252	274
2	355	355	305	295	b280	305	355	558	2,240	483	252	274
3	355	350	296	300	274	300	330	915	2,240	453	256	282
4	350	325	300	292	b280	295	320	1,300	2,050	435	252	282
5	375	330	296	292	282	295	320	1,530	1,890	423	248	274
6	370	335	296	287	278	300	335	1,570	1,630	400	232	278
7	355	325	300	282	296	292	335	1,630	1,320	390	236	282
8	370	320	300	269	232	295	320	1,520	1,240	395	248	274
9	395	335	300	300	278	300	325	1,900	1,110	345	240	278
10	375	310	300	292	282	300	340	2,180	979	320	236	287
11	370	310	296	292	287	300	325	2,260	930	320	232	282
12	360	325	292	300	260	295	300	2,320	930	310	224	282
13	360	325	274	287	264	274	330	2,540	962	305	216	310
14	355	315	300	282	296	248	355	2,320	938	292	213	305
15	350	310	282	244	296	269	423	2,120	922	287	210	287
16	345	300	296	278	282	278	459	2,140	875	274	216	269
17	340	296	292	315	244	295	429	2,240	830	296	206	274
18	340	296	292	305	b250	278	447	1,790	782	300	202	292
19	355	282	216	252	b300	287	519	1,750	725	292	202	292
20	355	296	232	b310	b300	287	560	1,790	718	269	224	282
21	330	315	269	b320	305	295	598	1,720	695	269	224	296
22	335	305	224	b290	287	305	537	1,480	665	269	232	330
23	325	310	282	b260	300	315	623	1,480	651	252	236	315
24	320	310	269	b240	295	330	725	1,560	609	248	260	310
25	320	310	274	b240	292	335	822	1,620	567	232	300	305
26	355	310	248	b250	292	345	922	1,730	539	228	335	335
27	355	315	245	b250	292	355	938	1,860	539	216	325	320
28	355	300	244	252	278	350	908	1,750	513	269	305	305
29	345	310	292	b280	295	325	725	1,810	483	282	274	340
30	330	296	300	b290	-	310	644	1,890	477	282	269	370
31	325	-	315	b290	-	335	-	2,010	-	269	282	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	10,770	395	320	347	21,360
November.....	9,406	335	282	314	18,660
December.....	8,740	315	216	282	17,340
Calendar year 1939.....	185,501	1,960	200	508	367,900
January.....	8,742	320	240	282	17,340
February.....	8,239	305	244	284	16,340
March.....	9,409	360	248	304	18,660
April.....	14,934	938	300	498	29,620
May.....	55,834	2,540	581	1,737	106,800
June.....	31,149	2,240	477	1,038	61,780
July.....	9,882	483	216	319	19,600
August.....	7,626	335	202	246	15,130
September.....	8,836	370	269	295	17,630
Water year 1939-40.....	181,617	2,540	202	496	360,300

b Stage-discharge relation affected by ice.

White River near Watson, Utah

Location.- Water-stage recorder, lat. $39^{\circ}58'$, long. $109^{\circ}10'$, in sec. 2, T. 10 S., R. 24 E., Salt Lake meridian, just downstream from Evacuation Creek and 7 miles north of Watson.

Drainage area.- 4,020 square miles.

Records available.- April to October 1906 (published as White River near Drago, Utah), and October 1933 to September 1940 in reports of Geological Survey. April 1923 to September 1940 in reports of State engineer of Colorado.

Average discharge.- 17 years, 753 second-feet.

Extremes.- Maximum discharge during year, 2,270 second-feet May 14 (gage height, 3.44 feet); minimum daily, 150 second-feet Aug. 17.

1906, 1923-40: Maximum daily discharge, 8,160 second-feet July 15, 1929; minimum discharge, 52 second-feet July 19, 20, 1934.

Remarks.- Records good except those for periods of ice effect, which are fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	462	370	348	400	370	450	416	1,070	1,680	466	215	260
2	438	370	365	360	360	430	444	988	1,750	394	192	270
3	404	370	370	370	350	420	458	974	1,870	410	192	260
4	678	376	360	370	340	430	515	1,030	1,920	400	184	295
5	426	376	345	360	350	400	462	1,230	1,760	378	188	265
6	414	382	343	350	340	380	454	1,500	1,680	361	184	265
7	409	376	365	350	350	390	460	1,590	1,600	350	180	265
8	409	382	358	320	360	400	449	1,650	1,320	335	180	270
9	744	376	354	360	*361	410	422	1,590	1,160	330	176	275
10	522	387	343	350	350	430	416	1,790	1,090	310	176	422
11	426	392	343	340	340	398	416	1,960	1,030	275	176	361
12	398	376	348	340	350	370	410	2,040	946	265	168	300
13	387	382	348	330	340	365	383	2,120	690	260	168	295
14	362	387	326	300	340	348	372	2,210	848	245	160	515
15	387	387	326	280	350	354	388	2,190	806	240	152	400
16	387	382	358	310	340	316	438	1,990	771	240	152	345
17	392	376	354	340	330	343	504	1,970	757	345	150	345
18	382	365	360	350	350	426	532	2,060	708	315	155	356
19	382	354	310	320	380	438	515	1,830	654	275	152	335
20	387	365	300	310	370	387	526	1,700	618	275	155	400
21	382	370	305	340	380	370	618	1,680	600	240	164	378
22	387	398	310	320	390	370	702	1,620	600	225	155	564
23	392	387	330	290	410	360	785	1,460	688	215	176	444
24	398	382	340	280	400	370	834	1,430	554	210	225	410
25	387	376	310	330	390	387	939	1,430	542	176	356	394
26	534	365	310	340	410	404	1,060	1,480	498	192	995	427
27	504	360	270	350	420	438	1,150	1,570	466	180	460	388
28	420	360	250	370	450	498	1,190	1,640	449	255	400	482
29	387	360	280	390	450	546	1,190	1,600	444	196	356	1,010
30	376	354	330	380	-	516	1,150	1,610	471	210	315	1,310
31	376	-	370	380	-	450	-	1,660	-	220	275	-
Month				Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet			
October.....				13,359		744	376	431	26,500			
November.....				11,243		398	354	375	22,300			
December.....				10,287		370	250	332	20,400			
Calendar year 1939.....				227,060		3,630	164	622	450,400			
January.....				10,560		400	280	341	20,950			
February.....				10,681		450	330	368	21,190			
March.....				12,594		546	316	406	24,980			
April.....				18,628		1,190	372	621	36,950			
May.....				50,662		2,210	974	1,634	100,500			
June.....				28,990		1,920	444	966	57,500			
July.....				8,788		466	176	283	17,430			
August.....				7,332		995	150	237	14,540			
September.....				12,506		1,510	260	410	24,410			
Water year 1939-40.....				195,430		2,210	150	534	387,600			

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Dec. 19, 20, Dec. 22 to Mar. 10.

Price River above Scofield Reservoir, near Scofield, Utah

Location.— Water-stage recorder, lat. $39^{\circ}46'$, long. $111^{\circ}11'$, in SE $\frac{1}{4}$ sec. 18, T. 12 S., R. 7 E., at mouth of canyon, 800 feet upstream from bridge, half a mile upstream from Pontown Creek, and 4 miles north of Scofield.

Drainage area.— 62 square miles.

Records available.— June 1931 to September 1932 (fragmentary), October 1938 to September 1940.

Extremes.— Maximum discharge during year, 520 second-feet May 13 (gage height, 3.00 feet); minimum discharge recorded, 4 second-feet Aug. 13, 14, but may have been less during period of ice effect.

1931-32, 1938-40: Maximum discharge, 673 second-feet May 19, 1932; minimum discharge recorded, 3 second-feet Sept. 10-30, 1932.

Remarks.— Records fair. Small transmountain diversions at headwaters for irrigation in the Great Basin.

Rating table, water year 1939-40, except period of ice effect (gage height, in feet, and discharge, in second-feet)

0.3	4	0.8	28	1.8	155
.4	7	1.0	45	2.0	199
.5	10	1.2	65	2.3	276
.6	15	1.4	89	2.6	369
.7	21	1.6	119	2.9	480

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8	8	12				17	106	92	26	7	6
2	8	8	14				15	122	84	a26	6	6
3	9	8	11				17	183	79	a24	6	7
4	12	8	11				17	262	75	a22	6	7
5	12	8	10				17	296	72	a21	6	8
6	12	7	10				15	305	67	a19	6	7
7	12	8	10				17	311	63	a18	6	7
8	12	8	10				16	346	57	a17	6	7
9	12	9	10				18	397	54	a17	6	7
10	10	10	10				19	441	51	a16	6	7
11	9	11	9				21	454	48	a15	5	6
12	9	10					24	468	46	a15	5	7
13	9	12					31	480	42	14	5	7
14	8	12					43	472	30	14	5	7
15	8	14					49	453	30	14	5	6
16	8	13		b7	b8	b10	43	430	30	17	6	6
17	8	12					41	397	30	17	6	6
18	8	10					57	349	30	17	6	9
19	8	10					80	311	29	17	6	9
20	8	10					108	279	28	16	8	9
21	7	12	b8				131	254	27	14	7	11
22	7	12					134	226	26	14	7	15
23	7	12					142	204	26	14	7	8
24	8	12					174	183	25	14	8	8
25	8	10					197	168	24	13	8	8
26	8	10					199	170	22	12	7	8
27	8	10					161	161	22	11	7	12
28	8	10					131	151	22	10	7	a10
29	8	10				20	119	133	20	10	7	a9
30	8	12			—	19	106	119	23	9	6	a8
31	8	—			—	16	—	100	—	7	6	—

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	275	12	7	8.9	545
November.....	306	14	7	10.2	607
December.....	277	—	—	8.9	549
Calendar year 1939.....	10,855	242	—	29.7	21,490
January.....	217	—	—	7.0	430
February.....	232	—	—	8.0	460
March.....	337	—	—	10.9	668
April.....	2,159	199	15	72.0	4,280
May.....	6,741	480	100	232	17,340
June.....	1,274	92	20	42.5	2,550
July.....	490	26	7	15.8	972
August.....	195	8	5	6.3	387
September.....	256	15	6	7.9	472
Water year 1939-40.....	14,741	480	—	40.3	29,240

a No gage-height record; discharge computed on basis of records for Huntington Creek near Huntington and Cottonwood Creek near Orangeville.
b Stage-discharge relation affected by ice.

Price River near Scofield, Utah

Location.- Water-stage recorder and concrete control, lat. $39^{\circ}47'$, long. $111^{\circ}07'$, in SE $\frac{1}{4}$ sec. 10, T. 12 S., R. 7 E., 1,000 feet downstream from Scofield Reservoir, 5 miles northeast of Scofield, and 9 miles upstream from White River.

Drainage area.- 163 square miles.

Records available.- November 1917 to September 1921 and 1925 (fragmentary), April 1926 to September 1931, October 1933 to September 1940.

Extremes.- Maximum discharge during year, 254 second-feet (regulated), June 27, 28 (gage height, 2.68 feet); practically no flow at times when reservoir gates were closed. 1917-20, 1926-31, 1933-40: Maximum discharge, 1,000 second-feet on or about May 24, 1920 (gage height, 10.4 feet, from floodmark, site and datum then in use), from rating curve extended above 500 second-feet; practically no flow at times when reservoir gates were closed.

Remarks.- Records good except those for periods of no gage-height record, which are fair. Flow completely regulated by Scofield Reservoir (capacity, 42,000 acre-feet). Small diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1							72	203	169	182	20
2	1							72	203	163	174	20
3	0							83	172	163	169	10
4	0							94	159	163	109	3
5	0							95	159	169	126	3
6	0							97	159	190	115	3
7	0							97	168	190	100	3
8	0							118	174	185	98	3
9	0							142	210	169	81	3
10	0							150	193	163	74	3
11	0							152	90	163	114	3
12	0							154	77	165	148	3
13	0						2	156	84	185	140	3
14	8							158	97	190	109	3
15	12							160	104	189	127	3
16	14		1		2			162	104	187	156	3
17	14				2			163	103	186	151	3
18	14							165	130	170	106	3
19	13							167	194	163	82	3
20	8							168	194	156	79	3
21	0							168	186	108	73	3
22	0							169	207	86	70	3
23	0							169	213	86	65	3
24	0							169	213	85	60	3
25	0						13	169	212	79	40	3
26	0							53	182	212	80	3
27	0							53	199	221	114	3
28	0							53	203	232	187	3
29	0							58	203	282	204	3
30	0							72	203	194	199	20
31	0							-	203	-	189	-
Month								Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....								85	14	-	2.7	169
November.....								30	-	-	1	60
December.....								31	-	-	1	61
Calendar year 1939.....								17,957	220	-	49.2	35,610
January.....								62	-	-	2	123
February.....								58	-	-	2	115
March.....								62	-	-	2	123
April.....								350	72	-	11.7	694
May.....								4,662	203	72	150	9,250
June.....								5,089	232	77	170	10,090
July.....								4,895	204	79	158	9,710
August.....								2,831	182	3	91.3	5,680
September.....								131	20	3	4.4	260
Water year 1939-40.....								18,286	232	-	50.0	36,280

Note.- Discharge for periods of no gage-height record, Oct. 3-7, 25, 26, Nov. 1 to Apr. 24, and May 11-15, interpolated, Aug. 24 to Sept. 30, computed on basis of records for station near Helmer, time of reservoir gate changes, and one gage reading on Sept. 28.

Price River near Heiner, Utah

Location.- Water-stage recorder, lat. 39°43'05", long. 110°51'55", in SW $\frac{1}{4}$ sec. 1, T. 13 S., R. 9 E., two-thirds of a mile north of Heiner and three-quarters of a mile downstream from Willow Creek.

Records available.- June 1934 to September 1940.

Extremes (regulated).- Maximum discharge during year, 9,340 second-feet Sept. 13 (gage height, 7.98 feet), by slope-area method; minimum discharge recorded, 3 second-feet Nov. 10, but may have been less during periods of ice effect.

1934-40: Maximum discharge, that of Sept. 13, 1940; minimum, less than 1 second-foot at times during period Sept. 1-10, 1934.

Remarks.- Records good except those for periods of ice effect or doubtful gage-height record, which are fair. Station is above diversions from the main stream for irrigation. Several small diversions from tributaries above station for irrigation and municipal supply. Flow regulated by Scofield Reservoir (capacity, 42,000 acre-feet).

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8	6	14	b9	b11	25	55	166	229	192	161	24
2	8	6	12	8	b11	20	52	163	229	173	153	26
3	8	6	12	6	b10	22	46	163	217	163	149	59
4	15	6	12	6	b9	22	44	206	189	163	115	28
5	14	7	12	6	b7	22	45	217	186	158	94	15
6	11	7	14	b5	b7	19	48	214	186	161	107	8
7	10	7	14	b4	b8	18	45	211	186	181	85	8
8	11	7	13	b5	b8	20	49	211	189	179	85	6
9	11	8	12	b6	b8	24	55	229	214	173	77	6
10	9	6	12	b8	b8	23	60	247	229	156	64	6
11	8	7	14	b8	b8	16	60	247	d130	146	68	5
12	8	7	11	b7	b7	b14	65	244	d90	144	132	4
13	8	7	b10	b8	b5	b13	76	244	d95	146	128	520
14	12	6	b11	b5	b5	16	90	238	d105	156	111	65
15	18	6	b11	*b5	b7	20	95	238	d110	166	94	27
16	23	6	b11	b5	b6	28	90	235	d110	168	144	18
17	21	9	11	b7	b5	48	82	235	d110	166	139	74
18	21	9	12	b6	b6	43	80	232	d120	161	124	218
19	21	8	11	b4	b7	44	88	229	176	144	82	174
20	20	15	b10	b5	b6	47	99	226	203	132	76	80
21	14	14	b8	b6	*b8	48	107	226	203	117	77	33
22	9	14	*b6	b5	9	54	109	220	200	77	68	18
23	8	16	b4	b5	8	57	109	217	217	76	80	19
24	7	14	b7	b6	9	58	113	214	220	71	71	16
25	8	16	b6	b6	10	63	124	211	220	70	58	13
26	8	14	b5	b8	14	60	151	214	214	63	22	11
27	6	17	b4	b9	17	63	166	226	214	78	20	102
28	6	14	b4	b8	23	53	163	235	232	139	12	189
29	7	10	b6	b6	29	48	163	232	229	184	12	294
30	6	16	b8	*b7	-	47	171	232	235	179	26	23
31	6	-	b9	b9	-	51	-	232	-	173	25	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	350	23	6	11.3	694
November.....	291	17	6	9.7	577
December.....	306	14	4	9.9	607
Calendar year 1939.....	29,204	325	-	80.0	57,940
January.....	198	9	4	6.3	389
February.....	277	29	5	9.6	549
March.....	1,106	63	13	35.7	2,190
April.....	2,700	171	44	90.0	5,360
May.....	6,854	247	163	221	13,590
June.....	5,487	235	90	183	10,880
July.....	4,455	192	63	144	8,840
August.....	2,659	161	12	85.8	5,270
September.....	2,119	520	4	70.6	4,200
Water year 1939-40.....	26,800	520	4	73.2	53,150

Peak discharge.- Sept. 13 (3:30 p.m.) 9,340 sec.-ft.; Sept. 17 (11 p.m.) 1,430 sec.-ft.; Sept. 19 (10 p.m.) 814 sec.-ft.; Sept. 27 (8:30 p.m.) 1,060 sec.-ft.; Sept. 28 (4:30 a.m.) 1,360 sec.-ft.; Sept. 29 (4:30 a.m.) 1,960 sec.-ft.

*Winter discharge measurement made this day.

b Stage-discharge relation affected by ice.

d Doubtful gage-height record; discharge computed on basis of records for station near Scofield.

Huntington Creek near Huntington, Utah

Location.- Water-stage recorder, lat. 39°22'15", long. 111°03'45", in SE¼ sec. 6, T. 17 S., R. 8 E., 1 mile upstream from Fish Creek and 7 miles northwest of Huntington.

Drainage area.- 188 square miles.

Records available.- May 1909 to September 1917, October 1918 to November 1920 (fragmentary), April 1921 to September 1940.

Average discharge.- 25 years (1910-17, 1921-29, 1930-40), 98.1 second-feet.

Extremes.- Maximum discharge during year, 761 second-feet Aug. 6 (gage height, 3.98 feet); minimum recorded, 12 second-feet Nov. 10, but may have been less during periods of ice effect.

1909-40: Maximum discharge, 2,500 second-feet Aug. 2 or 3, 1930 (gage height, 7.5 feet, from floodmark), from rating curve extended above 600 second-feet; minimum recorded, 2 second-feet (revised) Nov. 5, 1926, during period of ice effect, and may have been lower during other periods of ice effect.

Remarks.- Records good except those for period of ice effect, which are fair. Small diversions above station for irrigation. Flow slightly regulated by small reservoirs above station.

Rating table, water year 1939-40, except period of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Aug. 7 to Sept. 30)

1.0	10	1.4	29	2.2	145	3.0	371
1.1	13	1.6	48	2.4	191	3.3	451
1.2	17	1.8	74	2.6	245	3.6	600
1.3	22	2.0	106	2.8	305	4.0	770

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	27	27	28			26	34	54	337	143	66	23
2	28	26	25			25	32	117	318	137	61	24
3	31	26	22			27	31	186	293	139	55	29
4	32	25	21			24	31	257	265	133	46	31
5	33	26	22			26	31	262	231	131	45	34
6	36	26	22			26	31	239	212	125	64	30
7	32	24	23			25	29	239	201	121	61	31
8	32	23	23			26	32	296	191	114	47	28
9	33	27	23			26	32	371	174	110	42	27
10	33	21	22			26	33	406	158	106	35	28
11	31	24	23			26	32	417	149	104	32	28
12	29	23	18		b22	22	35	493	149	104	31	23
13	29	23	*b22			23	41	489	149	98	29	35
14	28	23	b21			23	49	497	145	96	28	35
15	28	22	b22			26	77	500	135	96	28	33
16	28	21	b22		*b19	26	71	489	119	101	28	28
17	28	20	b23			23	68	439	110	103	26	84
18	28	21	b22			26	78	399	103	111	27	59
19	27	23	b18		(*)	26	92	417	99	103	27	40
20	27	26	b18			28	112	406	91	92	28	56
21	27	25	b18			28	131	351	84	89	29	42
22	27	22	b17			29	137	371	86	86	27	34
23	27	23	b16			31	131	381	104	84	27	35
24	27	22	b18			26	35	137	410	117	82	31
25	27	22	b18			26	34	141	443	112	78	32
26	28	26	b16			26	34	135	552	112	77	28
27	26	26	b15			26	36	116	528	108	74	26
28	26	26	b14			26	34	98	458	112	73	25
29	28	22	b17			26	32	89	396	133	70	24
30	26	20	*b24		(*)	-	32	82	347	147	68	24
31	27	-	b26			33	-	347	-	66	24	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	895	36	25	28.9	1,780
November.....	711	27	20	23.7	1,410
December.....	637	28	14	20.5	1,260
Calendar year 1939.....	25,215	55	14	69.1	50,020
January.....	589	-	-	19.0	1,170
February.....	668	-	-	23.0	1,320
March.....	865	36	22	27.9	1,720
April.....	2,168	141	29	72.3	4,500
May.....	11,687	552	84	374	22,980
June.....	4,744	337	84	158	9,410
July.....	3,114	143	66	100	6,180
August.....	1,103	66	24	35.6	2,190
September.....	1,081	84	23	36.0	2,140
Water year 1939-40.....	28,162	552	-	76.9	55,860

*Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Cottonwood Creek near Orangeville, Utah

Location.- Water-stage recorder, lat. $39^{\circ}15'55''$, long. $111^{\circ}07'40''$, in SW $\frac{1}{4}$ sec. 10, T. 18 S., R. 7 E., 2 miles upstream from Grimes Wash and 5 miles northwest of Orangeville.

Drainage area.- 200 square miles.

Records available.- May 1909 to September 1927 (fragmentary), May 1932 to September 1940.

Average discharge.- 24 years (1910-20, 1921-27, 1932-40), 106 second-feet.

Extremes.- Maximum discharge recorded during year, 1,100 second-feet Sept. 17 (gage height, 4.42 feet), from rating curve extended above 500 second-feet; minimum discharge recorded, 6 second-feet Dec. 19, during period of ice effect.
1909-27, 1932-40: Maximum discharge, 2,500 second-feet Aug. 22, 1922, Sept. 9, 1927, from rating curve extended above 900 second-feet; minimum discharge observed, 4 second-feet Jan. 24, 1933 (discharge measurement), but may have been less during periods of ice effect.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Small diversions above station for irrigation. Ephraim and Spring City tunnels, constructed by Bureau of Reclamation in 1936 and 1938, respectively, and several small canals divert from headwaters of Cottonwood Creek to the Great Basin for irrigation in San Pitch River Basin.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	26	22	23			21	25	70	516	90	28	20
2	24	21	18			18	23	82	481	81	27	20
3	26	20	18			20	23	105	437	76	27	24
4	28	20	18			18	23	156	405	74	26	24
5	27	20	18			20	23	142	352	69	26	23
5	29	21	18			18	24	160	312	66	27	23
7	29	20	18			18	23	145	299	63	30	26
8	29	19	18			20	25	172	279	60	26	23
9	27	22	18			20	27	216	266	59	25	22
10	25	18	18			19	27	256	238	55	24	22
11	25	19	17		b16	18	27	319	221	52	24	24
12	26	18	16			17	29	364	217	50	24	24
13	25	18	*b19			18	34	514	214	49	23	37
14	25	18	b18			17	42	796	205	45	25	31
15	25	15	b18		*b15	19	44	a900	189	45	25	30
16	25	16	b18			20	37	a880	175	50	22	23
17	25	18	b19			21	34	a800	158	52	22	28
18	25	18	b18			19	39	a700	148	55	23	68
19	24	20	b14		(*)	20	50	a750	138	49	23	45
20	24	20	b14			20	65	a720	131	41	23	68
21	24	19	b14			21	77	a660	124	39	23	78
22	24	19	b15			23	84	a700	113	39	24	59
23	24	19	b12		18	25	88	a750	107	39	25	32
24	24	18	b14		18	28	98	a850	99	35	26	27
25	24	18	b14		17	29	94	a1,000	93	34	27	26
26	24	20	b13		18	28	86	a950	88	32	24	25
27	21	20	b12		18	29	77	a850	83	31	23	24
28	22	20	b12		19	24	70	a750	83	30	22	52
29	23	17	b13		19	23	70	a650	83	30	20	27
30	23	19	*b18		(*)	25	66	534	93	29	20	24
31	22	-	b20		-	26	-	522	-	30	20	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	773	29	2	24.9	1,530
November.....	572	22	15	19.1	1,130
December.....	510	23	12	16.4	1,010
Calendar year 1939.....	28,642	497	-	78.5	56,790
January.....	465	-	-	15	922
February.....	479	-	-	16.5	950
March.....	552	29	17	21.3	1,310
April.....	1,454	98	23	48.6	2,880
May.....	16,443	1,000	70	530	32,610
June.....	6,337	516	83	211	12,570
July.....	1,562	90	28	50.1	3,080
August.....	748	30	20	24.1	1,430
September.....	1,039	88	20	34.6	2,060
Water year 1939-40.....	31,034	1,000	-	84.8	61,530

*Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of records for Huntington Creek near Huntington.

b Stage-discharge relation affected by ice.

FREMONT RIVER BASIN

Fremont River below Fish Lake, near Fremont, Utah

Location.- Water-stage recorder, lat. 38°35'30", long. 111°40'30", in NE¼ sec. 34, T. 25 S., R. 2 E., half a mile downstream from outlet gates of Fish Lake, 3½ miles northeast of Twin Creeks ranger station, and 10 miles northwest of Fremont.

Drainage area.- 27 square miles.

Records available.- June 1939 to September 1940.

Extremes (regulated).- 1939: Maximum daily discharge during period, 50 second-feet June 8; practically no flow at times when gates at outlet of Fish Lake were closed.

1939-40: Maximum daily discharge during year, 58 second-feet June 6; practically no flow at times when gates at outlet of Fish Lake were closed.

Remarks.- Records good except those for periods of no gage-height record and those below 5 second-feet, which are fair. Flow regulated by gates at outlet of Fish Lake, half a mile above station. No diversions above station.

Rating table, period June 1, 1939, to Sept. 30, 1940 (gage height, in feet, and discharge, in second-feet)

7.4	0	7.9	5	8.8	40
7.5	.3	8.0	7	9.0	52
7.6	1	8.2	13	9.2	64
7.7	2	8.4	21		
7.8	3	8.6	30		

Discharge, in second-feet, 1939-40

1939

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									0	34	10	2
2									0	34	9	2
3									0	32	9	2
4									0	31	9	2
5									0	29	9	2
6									0	27	10	3
7									35	26	10	3
8									50	25	10	2
9									41	24	10	2
10									37	24	9	2
11									33	23	8	3
12									26	22	7	4
13									25	21	7	5
14									23	21	7	4
15									24	20	7	3
16									28	19	6	3
17									28	18	6	
18									31	17	6	
19									28	16	6	
20									26	15	6	
21									24	13	6	
22									26	13	5	
23									20	12	5	
24									30	12	4	.5
25									38	12	3	
26									36	11	3	
27									36	11	3	
28									34	11	3	
29									34	11	3	
30									34	11	3	
31									-	11	2	-

Discharge, in second-feet, of Fremont River below Fish Lake near Fremont, Utah, 1939-40--Continued

1939-40

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									1	27	6	3
2									1	24	5	3
3									1	24	5	3
4									1	23	5	3
5									37	22	5	3
6									58	21	a5	2
7									57	21	a5	2
8									53	20	a5	2
9									50	19	a5	2
10		(*)							49	18	a5	2
11									47	17	a5	1
12									47	16	a4	1
13									46	16	a4	1
14									43	15	a4	1
15									42	14	a4	1
16	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	40	15	a4	1
17									39	14	a4	1
18									38	14	a4	1
19									36	13	a4	1
20									36	12	a4	1
21									34	12	a4	1
22									34	12	a3	0
23									32	11	a3	0
24									32	11	a3	0
25									30	11	a3	0
26								(*)	30	10	a3	0
27									28	11	a3	0
28									27	9	3	0
29									26	7	3	0
30									28	6	3	0
31		-			-		-		-	6	3	-

*Discharge measurement made on this day.

a No gage-height record; discharge interpolated.

Note.- No gage-height record Sept. 16, 1939 to June 5, 1940 when outlet gates were closed at Fish Lake; discharge computed on basis of two discharge measurements.

Monthly discharge, in second-feet, 1939-40

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
June 1939.....	747	50	0	24.9	1,480
July.....	606	34	11	19.5	1,200
August.....	201	10	2	6.5	399
September.....	51	5	.5	1.7	101
The period.....	-	-	-	-	3,180
October 1939	16	-	-	.5	32
November.....	15	-	-	.5	30
December.....	16	-	-	.5	32
Calendar year	-	-	-	-	-
January 1940.....	16	-	-	.5	32
February.....	14	-	-	.5	28
March.....	16	-	-	.5	32
April.....	15	-	-	.5	30
May.....	16	-	-	.5	32
June.....	1,022	58	1	34.1	2,030
July.....	471	27	6	15.2	934
August.....	126	6	3	4.1	250
September.....	37	3	0	1.2	73
Water year 1939-40.....	1,780	58	0	4.9	3,540

Fremont River near Bicknell, Utah

Location.- Staff gage, lat. 38°18', long. 111°31', in NE¼ sec. 7, T. 29 S., R. 4 E., 1,000 feet upstream from highway bridge, 1,000 feet downstream from Torrey canal and Mill ditch, 1 mile downstream from Government Creek, and 3 miles southeast of Bicknell.

Drainage area.- 776 square miles.

Records available.- May 1909 to December 1912 (published as Fremont River near Thurber), October 1937 to September 1940.

Extremes.- Maximum discharge observed during year, 121 second-feet Apr. 21; minimum observed, 39 second-feet July 1.
1909-12, 1937-40: Maximum discharge observed, 420 second-feet Apr. 10, 1912; minimum observed, 18 second-feet June 2, 4, 13-15, 17, 18, 1912.

Remarks.- Records poor. Records include flow of Torrey canal and Mill ditch and represent flow of Fremont River above these diversions. Discharge computed by combining flow in canals with that in river below canals. Gages read once daily. Several diversions above station for irrigation. Flow affected by Fish Lake and Johnson and Forsythe Reservoirs.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
1	71	69	84	89	89	101	71	67	60	39	44	65	
2	71	66	82	86	89	97	68	67	57	40	45	64	
3	77	68	81	90	92	97	65	60	56	42	43	68	
4	75	69	82	81	92	97	71	59	56	40	44	66	
5	75	72	81	b80	90	98	71	57	53	41	47	64	
6	70	72	80	b78	86	90	69	57	56	43	48	107	
7	69	73	82	b77	89	92	67	57	56	46	55	79	
8	68	68	86	b81	86	95	65	58	54	48	50	78	
9	71	75	86	86	86	92	67	59	52	56	49	73	
10	70	68	82	89	89	92	109	64	52	45	47	73	
11	69	74	82	89	89	92	76	64	51	45	46	71	
12	67	72	80	92	86	83	71	62	54	49	46	72	
13	66	73	80	b90	80	91	102	60	53	55	48	65	
14	60	79	80	b80	88	91	94	60	50	55	48	65	
15	59	69	80	b71	89	84	82	61	48	50	50	78	
16	59	73	82	b73	85	84	80	61	48	53	54	94	
17	62	74	86	b73	85	84	79	63	49	53	54	84	
18	66	74	83	74	90	81	78	61	48	53	49	84	
19	66	68	79	79	85	81	75	59	46	59	49	63	
20	66	73	72	77	90	79	103	63	46	57	53	72	
21	64	73	78	74	82	76	121	64	47	46	a56	61	
22	62	76	83	79	92	75	111	62	49	42	60	75	
23	64	76	81	76	96	70	76	61	45	48	61	70	
24	65	78	76	75	102	70	73	61	41	46	67	68	
25	65	80	76	92	103	68	66	60	41	44	66	74	
26	66	83	70	92	109	68	71	59	41	43	65	72	
27	67	83	72	89	106	77	66	56	40	41	64	65	
28	65	83	69	89	105	75	66	58	44	41	71	67	
29	66	83	61	81	102	68	66	57	41	44	73	71	
30	65	84	89	86	-	68	65	59	41	44	70	70	
31	68	-	92	92	-	68	-	60	-	43	65	-	
Month						Second-foot-days		Maximum		Minimum		Mean	Run-off in acre-feet
October.....						2,074		77		59		65.9	4,110
November.....						2,228		84		66		74.3	4,420
December.....						2,477		92		61		79.9	4,910
Calendar year 1939.....						30,103		234		57		81.5	59,710
January.....						2,560		92		71		83.6	5,080
February.....						2,652		109		80		91.4	5,260
March.....						2,584		101		68		81.4	5,130
April.....						2,344		121		65		73.1	4,650
May.....						1,878		67		57		60.6	3,720
June.....						1,477		60		40		49.2	2,930
July.....						1,451		59		39		46.8	2,880
August.....						1,687		73		43		54.4	3,350
September.....						2,178		107		61		72.6	4,320
Water year 1939-40.....						25,590		121		39		69.9	50,760

a No gage-height record; discharge interpolated.
b Stage-discharge relation affected by ice.

San Juan River near Pagosa Springs, Colo.

Location.— Water-stage recorder, lat. 37°22'05", long. 106°53'40", in S $\frac{1}{4}$ sec. 12, T. 36 N., R. 1 W., a quarter of a mile upstream from private highway bridge³, half a mile upstream from West Fork of San Juan River, and 9.5 miles northeast of Pagosa Springs.

Drainage area.— 86.9 square miles.

Records available.— May 1935 to September 1940.

Extremes.— Maximum discharge during year, 606 second-feet May 17 (gage height, 2.87 feet); minimum daily, 5.5 second-feet Dec. 20.

1935-40: Maximum discharge, 1,670 second-feet May 28, 1938 (gage height, 4.00 feet, site and datum then in use); minimum daily, that of Dec. 20, 1939.
Greatest flood known occurred Oct. 5, 1911 (discharge not determined).

Remarks.— Records good except those for periods of ice effect or no gage-height record, which are fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	39	20	8.2	8.0	8.2	14	64	142	361	73	22	26
2	35	19	8.6	7.7	7.6	12	62	178	361	64	21	28
3	33	18	9.0	8.5	8.2	12	61	257	345	57	19	35
4	31	17	9.6	9.0	8.5	11	59	353	317	54	17	28
5	27	18	9.1	9.1	7.3	12	77	365	289	51	16	24
6	26	19	8.6	7.6	6.6	12	76	365	274	51	26	22
7	26	18	8.6	6.0	6.6	11	74	369	250	44	33	22
8	33	16	8.6	6.8	6.4	13	76	349	232	41	33	24
9	32	18	9.2	7.9	6.2	16	77	329	211	39	23	20
10	29	15	9.0	7.9	6.6	18	80	369	185	37	19	19
11	26	14	8.5	7.3	8.0	16	87	369	170	37	19	19
12	25	14	8.0	7.3	7.2	14	95	361	160	40	17	19
13	24	13	6.8	6.6	7.0	13	120	401	160	39	16	42
14	23	11	7.4	6.5	8.0	19	150	453	170	45	17	31
15	21	10	7.9	6.6	9.4	18	195	449	160	39	18	28
16	20	9.6	*8.5	7.0	9.0	24	175	445	147	43	19	24
17	19	9.5	8.0	7.7	8.2	29	150	490	140	56	18	27
18	19	9.5	7.9	8.0	9.0	26	149	508	132	35	16	81
19	18	9.6	6.5	7.8	9.5	34	178	409	126	32	17	97
20	18	9.6	5.5	7.9	9.2	33	250	369	118	30	30	69
21	17	9.6	6.4	8.6	8.5	37	265	313	111	30	52	56
22	16	9.5	6.7	9.3	9.4	46	260	305	106	30	54	57
23	16	9.3	8.2	*9.1	8.8	54	285	309	99	27	42	49
24	15	6.9	7.8	9.2	8.2	66	260	313	93	26	83	45
25	18	8.6	8.6	9.4	8.2	86	226	305	88	24	75	48
26	29	9.3	7.0	9.1	8.5	83	257	325	84	24	62	46
27	20	9.2	6.0	8.5	9.1	80	268	357	75	39	52	40
28	20	8.6	6.5	7.3	11	70	205	369	67	36	42	40
29	20	8.2	7.2	7.9	13	62	168	369	76	29	37	48
30	18	8.5	7.8	9.1	-	57	147	389	99	26	32	64
31	19	-	8.3	9.1	-	60	-	393	-	23	29	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	732	39	15	23.6	1,450
November.....	377.7	20	5.2	12.6	749
December.....	244.2	9.6	5.5	7.88	484
Calendar year 1939.....	30,288.9	469	5.5	83.0	60,080
January.....	247.6	9.4	6.0	7.99	492
February.....	241.4	13	6.2	8.32	479
March.....	1,058	86	11	34.1	2,100
April.....	4,576	285	59	153	9,080
May.....	11,077	505	142	357	21,970
June.....	5,246	381	67	175	10,410
July.....	1,201	73	23	38.7	2,380
August.....	976	85	15	31.5	1,940
September.....	1,178	97	19	39.3	2,340
Water year 1939-40.....	27,155.1	505	5.5	74.2	53,870

*Winter discharge measurement made on this day.

Note.— Stage-discharge relation affected by ice Nov. 16-28, Dec. 1 to Jan. 4, Jan. 14-25, Feb. 6-20. No gage-height record Mar. 20 to Apr. 18, Apr. 20-24; discharge computed on basis of records for station at Pagosa Springs.

San Juan River at Pagosa Springs, Colo.

Location.— Water-stage recorder, lat. $37^{\circ}15'55''$, long. $107^{\circ}00'40''$, in S $\frac{1}{2}$ sec. 13, T. 35 N., R. 2 W., under lower highway bridge at town of Pagosa Springs. Datum of gage is 7,052.03 feet above mean sea level (unadjusted).

Drainage area.— 298 square miles.

Records available.— January 1911 to November 1914, May 1935 to September 1940.

Extremes.— Maximum discharge during year, 1,600 second-feet May 17 (gage height, 5.16 feet); minimum daily, 23 second-feet Dec. 20.

1911-14, 1935-40: Maximum discharge recorded, 4,710 second-feet June 15, 1935, from rating curve extended above 3,300 second-feet; minimum daily, 22 second-feet Dec. 19, 1938.

Greatest flood known occurred Oct. 5, 1911 (discharge, about 25,000 second-feet; gage height, about 17 feet).

Remarks.— Records good. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	103	74	38	36	45	71	221	376	1,150	187	63	72
2	94	74	40	35	41	63	208	496	1,080	155	58	69
3	88	69	40	38	39	60	180	798	1,000	138	52	94
4	84	69	45	40	44	60	173	1,110	920	128	48	79
5	79	69	44	39	41	63	195	1,190	839	126	44	66
6	77	74	40	39	37	61	195	1,160	758	121	63	60
7	74	71	41	35	41	58	187	1,140	674	106	77	58
8	97	66	40	35	41	63	192	1,060	602	99	68	57
9	92	77	42	40	39	79	197	980	525	90	52	53
10	82	68	43	40	39	88	205	1,080	442	87	46	55
11	79	66	40	39	41	82	205	1,080	400	85	44	57
12	72	68	38	37	44	69	229	1,040	365	87	41	52
13	71	64	30	32	37	52	298	1,130	353	79	40	82
14	69	58	32	30	40	57	424	1,270	361	87	40	72
15	68	55	32	33	45	77	474	1,290	346	77	44	71
16	66	53	38	37	42	103	396	1,280	318	82	43	58
17	64	53	37	39	38	126	346	1,370	295	76	42	58
18	58	49	36	38	41	119	350	1,340	276	72	39	190
19	57	52	29	40	43	134	483	1,150	267	69	44	357
20	53	48	23	35	41	144	680	1,020	249	64	71	255
21	50	52	28	40	36	168	798	902	240	68	99	190
22	50	50	28	37	43	210	782	848	258	64	94	218
23	50	48	37	36	44	249	857	920	249	61	82	192
24	49	45	34	40	43	279	830	930	210	60	157	173
25	54	43	39	40	44	315	736	950	192	54	182	161
26	95	46	38	40	45	308	766	1,000	182	54	148	161
27	71	49	25	40	50	270	814	1,070	175	84	130	146
28	69	44	27	36	53	246	614	1,110	155	140	103	142
29	76	41	32	37	61	208	483	1,120	155	90	95	202
30	71	41	35	40	-	192	404	1,130	240	77	84	270
31	76	-	37	41	-	218	-	1,160	-	74	74	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						2,238	103	49	72.2	4,440		
November.....						1,756	77	41	57.9	3,440		
December.....						1,108	45	23	35.7	2,200		
Calendar year 1939.....						87,724	1,300	23	240	174,000		
January.....						1,162	41	30	37.5	2,300		
February.....						1,238	61	36	42.7	2,460		
March.....						4,292	315	52	138	8,510		
April.....						12,922	857	173	431	25,630		
May.....						32,480	1,370	376	1,048	64,420		
June.....						13,276	1,150	155	443	26,330		
July.....						2,841	187	54	91.6	5,640		
August.....						2,267	182	39	75.1	4,500		
September.....						3,768	357	52	126	7,470		
Water year 1939-40.....						79,328	1,370	23	217	157,300		

San Juan River at Rosa, N. Mex.

Location.- Water-stage recorder, lat. 37°00'20", long. 107°24'10", in sec. 21, T. 32 N., R. 5 W., about 75 feet upstream from highway bridge, a quarter of a mile downstream from Piedra River, and about a mile north of Rosa.

Drainage area.- 1,990 square miles.

Records available.- October 1930 to September 1940 in reports of Geological Survey.
September 1920 to December 1931 in reports of State engineer.

Average discharge.- 20 years (1920-40), 1,166 second-feet.

Extremes.- Maximum discharge during year, 3,780 second-feet May 18 (gage height, 4.36 feet); minimum daily, 80 second-feet Dec. 28.

1930-40: Maximum discharge, 10,400 second-feet June 21, 1935 (gage height, 7.60 feet, datum then in use), from rating curve extended above 8,200 second-feet; minimum daily, 70 second-feet (estimated) Dec. 1, 2, 1934.

Greatest flood known occurred Oct. 5, 1911 (discharge not determined).

Remarks.- Records good except those for periods of ice effect, which are poor. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
1	348	232	174	b110	b170	414	870	1,090	2,430	600	168	223	
2	314	232	164	b110	b210	383	948	1,180	2,260	454	158	218	
3	290	238	169	b130	b230	348	760	1,730	2,020	362	145	218	
4	278	232	164	b140	b200	334	710	2,510	1,860	327	128	234	
5	260	227	174	b160	*b180	362	720	2,830	1,690	327	128	212	
6	249	244	174	b150	b160	348	750	2,750	1,540	320	128	190	
7	238	244	174	b140	b140	296	710	2,750	1,390	296	168	176	
8	249	238	174	b130	b160	320	690	2,670	1,230	272	218	172	
9	296	244	169	b140	b160	438	690	2,300	1,170	244	181	163	
10	272	272	174	*b160	b150	533	710	2,510	1,000	210	142	150	
11	260	244	174	b160	b150	533	700	2,590	914	196	131	154	
12	249	244	169	b170	b160	362	720	2,510	848	186	138	150	
13	249	244	b150	b140	*b170	284	870	2,510	804	172	131	163	
14	238	222	b130	b110	b150	254	1,180	2,830	826	196	124	206	
15	227	210	119	*b90	b180	290	1,510	2,920	837	212	134	181	
16	216	200	b130	b100	b170	390	1,350	2,830	793	186	124	176	
17	216	196	b150	b120	b160	570	1,200	2,920	771	196	120	168	
18	216	192	b150	b140	b150	580	1,160	3,420	700	186	117	245	
19	200	196	b140	b150	*b170	610	1,280	2,750	660	181	101	734	
20	200	187	b110	b160	b160	640	1,790	2,350	640	163	142	770	
21	196	192	104	b160	b180	710	2,240	2,060	560	138	280	537	
22	192	*b180	113	*b150	210	837	2,180	2,020	580	142	366	516	
23	192	b190	b120	b140	205	992	2,350	2,220	670	145	400	537	
24	192	187	146	b140	249	1,080	2,260	2,080	560	145	579	486	
25	192	178	b150	b150	232	1,140	1,960	2,050	488	142	644	438	
26	278	178	b120	b160	284	1,210	1,870	2,020	462	201	476	457	
27	327	187	b90	b160	320	1,100	2,040	2,200	430	181	410	457	
28	254	192	b80	b160	376	1,090	1,700	2,340	383	308	332	428	
29	249	182	b90	*b140	406	870	1,420	2,320	375	273	287	600	
30	249	174	b100	b150	-	771	1,220	2,320	680	223	266	926	
31	227	-	b120	b160	-	837	-	2,350	-	196	240	-	
Month						Second-foot-days		Maximum		Minimum		Mean	Run-off in acre-feet
October.....						7,613		348		192		246	15,100
November.....						6,378		272		174		213	12,650
December.....						4,365		174		80		141	8,660
Calendar year 1939.....						275,324		3,780		73		754	546,100
January.....						4,380		170		90		141	8,690
February.....						5,842		406		140		201	11,590
March.....						18,926		1,210		254		611	37,540
April.....						38,458		2,350		690		1,282	76,280
May.....						73,930		3,420		1,090		2,385	146,600
June.....						29,572		2,430		376		986	58,660
July.....						7,380		600		138		238	14,640
August.....						7,106		644		101		229	14,080
September.....						10,285		926		150		343	20,400
Water year 1939-40.....						214,235		3,420		80		585	424,900

*Winter discharge measurement made on this day.
b Stage-discharge relation affected by ice.

SAN JUAN RIVER BASIN

San Juan River near Blanco, N. Mex.

Location.- Water-stage recorder, lat. 36°44', long. 107°49', in sec. 18, T. 29 N., R. 9 W., half a mile upstream from highway bridge, 1 mile upstream from Canyon Largo, and 1½ miles east of Blanco.

Drainage area.- 3,320 square miles.

Records available.- December 1908 to October 1910 (January to October 1910, gage heights only), October 1930 to September 1940 in reports of Geological Survey. December 1908 to December 1909, June 1927 to December 1931 in reports of State engineer.

Average discharge.- 12 years (1928-40), 1,417 second-feet.

Extremes.- Maximum discharge during year, 4,480 second-feet May 18 (gage height, 4.87 feet); minimum daily, 25 second-feet Aug. 6.

1930-40: Maximum discharge, 18,000 second-feet Apr. 16, 1937, from rating curve extended above 11,000 second-feet by logarithmic plotting and on basis of velocity-area studies; maximum gage height 7.65 feet Aug. 21, 1932; minimum daily discharge, 17 second-feet Aug. 18, 24, 25, 1939.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are poor. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	378	277	244	a190	239	761	1,070	1,360	2,690	518	79	176
2	323	292	235	a160	308	592	1,110	1,430	2,580	425	49	164
3	292	277	187	a160	361	608	1,080	1,820	2,460	313	39	142
4	287	277	191	a210	329	518	960	2,520	2,150	263	31	146
5	277	282	208	a250	287	548	910	3,110	1,910	226	27	160
6	249	292	230	a270	253	570	950	3,230	1,660	230	25	139
7	244	263	217	a270	258	511	930	3,210	1,500	226	345	110
8	239	258	213	a260	226	455	870	3,210	1,350	191	183	93
9	263	258	217	a230	204	555	870	2,940	1,220	164	213	113
10	303	345	221	a240	226	743	870	2,880	1,140	139	179	96
11	277	350	235	263	230	743	880	3,210	982	113	142	76
12	258	313	253	277	258	608	860	3,130	900	86	132	76
13	244	329	235	292	226	449	930	3,060	842	81	156	74
14	239	345	204	b250	239	384	1,240	3,300	797	67	122	79
15	235	334	180	b210	217	350	1,720	3,430	806	71	102	122
16	230	308	160	b150	217	431	1,870	3,380	797	96	110	96
17	226	297	187	*b140	199	624	1,710	3,460	743	86	57	99
18	221	292	211	b170	191	770	1,480	3,890	680	204	69	172
19	221	277	204	b200	199	752	1,290	3,750	600	168	96	422
20	221	282	142	b210	195	788	1,600	3,130	555	91	261	1,240
21	217	253	153	b220	239	842	2,070	2,520	525	86	292	1,210
22	217	277	142	b220	268	950	2,210	2,460	511	61	292	1,020
23	213	230	168	b210	282	1,140	2,650	2,720	518	59	532	950
24	208	226	168	*b200	389	1,310	2,880	2,520	525	61	892	890
25	208	226	208	b200	483	1,400	2,850	2,390	449	99	1,270	815
26	312	221	a200	b210	455	1,560	2,610	2,410	425	110	761	725
27	462	249	a180	b220	890	1,500	2,520	2,540	367	113	449	672
28	367	263	a150	b220	815	1,450	2,500	2,690	339	272	356	1,190
29	282	273	a130	b200	761	1,310	1,920	2,690	318	187	308	1,010
30	282	226	a150	b210	-	1,050	1,630	2,670	455	153	292	1,420
31	282	-	a180	b220	-	993	-	2,720	-	110	208	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						8,277	462	208	267	16,420		
November.....						8,392	350	221	280	16,650		
December.....						6,003	253	130	194	11,910		
Calendar year 1939.....						337,405	4,640	17	924	669,300		
January.....						6,732	292	140	217	13,350		
February.....						9,444	890	191	326	18,730		
March.....						25,265	1,560	350	815	50,110		
April.....						47,040	2,880	860	1,568	93,300		
May.....						87,780	3,890	1,360	2,832	174,100		
June.....						30,794	2,690	318	1,026	61,080		
July.....						5,069	518	59	164	10,050		
August.....						8,069	1,270	25	260	16,000		
September.....						13,697	1,420	74	457	27,170		
Water year 1939-40.....						256,562	3,890	25	701	508,900		

*Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of records for stations at Pecos Springs and Rosam.

b Stage-discharge relation affected by ice.

San Juan River at Farmington, N. Mex.

Location.- Water-stage recorder, lat. $36^{\circ}43'$, long. $108^{\circ}13'$, in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 20, T. 29 N., R. 13 W., 1,900 feet downstream from Animas River and 1 mile southwest of Farmington.

Drainage area.- 6,580 square miles.

Records available.- June 1904 to September 1906, September 1912 to December 1914, and October 1930 to September 1940 in reports of Geological Survey. September 1912 to July 1918 and November 1921 to December 1931 in reports of State engineer.

Average discharge.- 17 years (1922-25, 1926-40), 2,451 second-feet.

Extremes.- Maximum discharge during year, 7,760 second-feet May 15 (gaze height, 3.76 feet); minimum daily, 83 second-feet Aug. 5, 6.

1930-39: Maximum discharge, 52,800 second-feet Sept. 28, 1935 (gaze height, 8.0 feet, estimated), from rating curve extended above 18,000 second-feet; minimum daily, 27 second-feet Aug. 22, 1939.

Remarks.- Records for January to September good, others fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	904	547	508	537	651	1,210	1,430	2,110	4,970	845	168	328
2	770	585	499	673	848	990	1,490	1,840	5,050	681	120	350
3	662	575	464	684	890	916	1,490	2,260	4,850	692	91	332
4	607	566	448	547	820	960	1,430	2,620	4,510	580	85	210
5	618	566	439	618	695	862	1,280	3,970	4,000	515	83	213
6	596	556	448	556	547	890	1,300	4,840	3,530	455	83	202
7	575	585	439	414	527	918	1,430	4,690	3,050	458	700	178
8	596	596	439	431	537	820	1,390	5,330	2,770	400	291	144
9	618	708	456	464	518	634	1,300	2,970	2,560	332	228	132
10	651	745	472	499	499	1,130	1,200	5,170	2,300	264	213	144
11	651	782	481	527	508	1,210	1,200	5,860	1,980	199	199	120
12	596	720	499	684	537	1,100	1,210	6,120	1,820	141	171	129
13	556	640	499	720	464	795	1,320	6,070	1,780	110	171	202
14	499	651	489	456	431	556	1,650	6,200	1,820	108	171	144
15	464	618	464	518	489	481	2,210	6,850	1,900	100	135	157
16	448	596	464	464	489	508	2,110	6,530	1,840	126	123	182
17	423	556	448	414	464	770	2,520	6,500	1,600	158	128	174
18	406	537	472	431	371	1,040	1,900	6,850	1,480	575	87	510
19	431	537	472	439	423	1,130	1,750	6,240	1,320	375	95	958
20	448	537	385	378	454	1,130	2,210	4,930	1,210	256	145	2,400
21	406	508	299	371	439	1,130	3,140	4,350	1,170	157	661	2,300
22	423	489	280	392	481	1,250	3,230	3,330	1,070	157	346	2,050
23	392	481	317	406	556	1,470	3,550	3,900	1,090	98	589	1,980
24	350	481	350	423	596	1,750	4,220	4,180	1,070	93	692	1,860
25	350	499	414	448	862	1,800	4,330	4,430	970	100	2,180	1,580
26	499	489	456	448	795	1,930	3,790	4,540	872	144	1,400	1,360
27	882	481	378	489	1,410	1,900	3,760	4,780	768	271	854	1,240
28	795	461	311	508	1,360	2,110	3,590	4,970	871	568	678	1,610
29	629	537	286	547	1,250	2,090	3,020	4,850	594	350	574	2,080
30	556	518	371	637	-	1,650	2,520	4,680	736	282	534	1,800
31	537	-	423	627	-	1,390	-	4,700	-	228	406	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						17,318	904	350	559	34,350		
November.....						17,167	782	481	572	34,050		
December.....						13,150	508	280	424	26,080		
Calendar year 1939.....						583,016	7,550	27	1,597	1,156,000		
January.....						15,550	720	371	502	30,840		
February.....						18,901	1,410	371	652	37,490		
March.....						36,722	2,110	461	1,185	72,640		
April.....						66,970	4,330	1,200	2,232	132,600		
May.....						149,440	6,850	1,840	4,321	286,400		
June.....						63,351	5,050	504	2,112	125,700		
July.....						10,028	881	93	323	19,890		
August.....						12,399	2,180	83	400	24,590		
September.....						25,059	2,400	120	835	49,700		
Water year 1939-40.....						446,055	6,850	83	1,219	884,700		

San Juan River at Ship Rock, N. Mex.

Location.- Water-stage recorder, lat. 36°47'35", long. 106°43'55", in SW¼ sec. 22, T. 30 N., R. 18 W., 3 miles northwest of Ship Rock and about 6 miles downstream from Chaco River. Datum of gage, 4,848.6 feet above mean sea level (river-profile survey).

Drainage area.- 12,800 square miles.

Records available.- January to October 1911, October 1930 to September 1931, and October 1932 to September 1940 in reports of Geological Survey. January to October 1911 and November 1915 to December 1931 in reports of State engineer.

Average discharge.- 20 years (1916-20, 1921-25, 1927-31, 1932-1940) 2,732 second-feet.

Extremes.- Maximum discharge during year, 7,430 second-feet May 16 (gage height 5.60 feet); minimum daily, 20 second-feet Aug. 6, 7.

1930-31, 1932-40: Maximum discharge, 44,200 second-feet Sept. 25, 1935 (gage height, 9.44 feet, site and datum then in use, from floodmarks), from rating curve extended above 20,000 second-feet by logarithmic plotting; minimum daily, 8 second-feet Aug. 25, 26, 1939.

A stage of about 6.5 feet, site and datum then in use, occurred Aug. 11, 1929 (discharge, about 80,000 second-feet). A greater discharge probably occurred Oct. 6, 1911, when a stage of 22.0 feet on old gage (relation to present datum unknown) was recorded.

Remarks.- Records from February to September good; from October to January fair except those for periods of ice effect or no gage-height record, which are poor. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	894	578	560	470	525	894	1,400	2,200	4,950	752	191	396
2	796	566	555	510	685	916	1,630	1,710	5,070	949	112	340
3	752	578	550	566	730	722	1,590	1,960	4,830	778	57	390
4	708	572	515	596	666	778	1,440	2,630	4,370	608	36	320
5	700	590	520	596	646	730	1,260	4,140	3,920	520	a25	a220
6	708	620	515	652	602	832	1,160	4,830	3,480	452	20	a160
7	692	652	540	614	555	861	1,230	4,950	3,050	396	20	a160
8	678	672	535	572	596	841	1,240	5,310	2,780	384	448	a130
9	646	730	545	646	566	850	1,040	5,150	2,420	324	210	a110
10	652	692	540	708	560	927	1,100	5,190	2,200	261	170	a120
11	672	626	555	787	566	1,040	1,160	5,680	1,920	a170	160	a140
12	620	722	560	863	530	1,030	1,210	6,070	1,720	a90	132	107
13	614	646	560	883	500	872	1,350	6,070	1,670	a60	100	122
14	608	652	545	596	490	700	1,570	5,940	1,590	a50	105	183
15	584	596	510	540	475	633	2,020	6,600	1,780	a50	100	151
16	545	608	505	475	510	659	2,780	6,600	1,920	51	78	163
17	545	614	495	456	525	738	2,840	6,330	1,570	45	58	138
18	525	578	505	432	490	796	2,400	6,330	1,620	165	56	804
19	505	550	530	436	500	938	1,980	6,460	1,400	412	44	2,010
20	520	555	b470	456	535	1,060	1,920	5,070	1,230	344	59	2,560
21	510	520	b390	460	520	1,030	2,780	4,600	1,160	213	218	3,050
22	515	505	n370	448	584	1,000	3,480	4,140	1,060	122	490	2,780
23	495	535	b350	396	685	1,260	3,480	4,030	1,060	96	436	2,360
24	448	555	b420	424	769	1,590	4,260	4,140	988	62	1,280	2,300
25	436	584	b500	475	832	1,760	4,480	4,260	974	51	2,870	1,980
26	475	608	520	450	988	1,880	4,030	4,370	832	45	2,720	1,570
27	700	572	444	480	1,460	2,140	3,700	4,260	752	105	1,420	1,300
28	738	560	416	465	1,330	2,000	3,920	4,720	614	2,310	760	1,350
29	738	555	364	495	949	2,000	3,370	4,830	515	1,840	685	2,710
30	633	578	344	480	-	1,650	2,780	4,830	545	567	545	1,900
31	596	-	408	515	-	1,420	-	4,830	-	276	515	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	19,248	894	436	621	38,180
November.....	17,976	730	505	599	35,650
December.....	15,136	560	344	488	30,020
Calendar year 1939.....	555,420	6,820	8	1,522	1,102,000
January.....	17,002	883	396	548	33,720
February.....	19,359	1,460	475	668	38,400
March.....	34,547	2,140	633	1,114	69,520
April.....	68,600	4,480	1,040	2,287	136,100
May.....	148,270	6,600	1,710	4,783	294,100
June.....	61,790	5,070	515	2,060	122,600
July.....	12,546	2,310	45	405	24,880
August.....	14,120	2,870	20	455	28,010
September.....	30,099	3,050	107	1,003	59,700
Water year 1939-40.....	458,693	6,600	20	1,253	908,900

a No gage-height record; discharge computed on basis of records for station at Farmington.

b Stage-discharge relation affected by ice.

d Doubtful gage-height record; discharge computed on basis of records for station at Farmington.

San Juan River near Bluff, Utah

Location.- Water-stage recorder, lat. 37°09', long. 109°52', in SW¼ sec. 7, T. 42 S., R. 19 E., 1,600 feet downstream from Gypsum Wash, 1,800 feet upstream from bridge, and 20 miles southwest of Bluff. Altitude of gage, 4,050 feet (from river-profile map).

Drainage area.- 23,900 square miles.

Records available.- October 1914 to September 1917, March 1927 to September 1940.

Average discharge.- 15 years (1915-17, 1927-40), 2,736 second-feet.

Extremes.- Maximum discharge during year, 18,500 second-feet Sept. 30 (gage height, 14.1 feet); minimum daily, 31 second-feet Aug. 20.

1915-17, 1927-40: Maximum discharge, 70,000 second-feet Sept. 10, 1927 (gage height, 32.0 feet), from rating curve extended above 15,000 second-feet; no flow July 3-13, 1934, Aug. 24-27, 29, 1939.

Flood of Oct. 6, 1911, which is greatest known at Ship Rock, N. Mex., probably exceeded, at this station, that of Sept. 10, 1927, but stage was not accurately determined.

Remarks.- Records excellent except those for July 13 to Sept. 30, which are fair. Many diversions above station for irrigation. No diversions between station and mouth of river.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	974	578	582	266	670	1,870	1,420	2,510	4,990	213	394	506
2	878	568	597	332	1,130	1,520	1,330	2,320	5,250	549	224	462
3	854	612	534	441	1,690	1,530	1,500	1,910	5,180	719	148	388
4	776	602	544	794	1,960	1,220	1,460	2,030	4,930	854	112	380
5	724	578	558	981	1,480	1,090	1,410	2,520	4,100	659	93	318
6	681	558	516	830	994	981	1,230	3,990	3,660	558	74	361
7	628	568	511	776	860	890	1,200	4,930	3,270	416	52	269
8	602	582	511	708	747	962	1,260	4,930	2,860	388	47	199
9	691	649	563	635	643	878	1,200	5,270	2,560	328	120	202
10	643	800	549	654	633	800	1,170	5,010	2,270	301	339	181
11	607	854	539	794	602	830	1,140	5,100	2,060	281	154	157
12	643	794	516	890	558	1,190	1,090	5,690	1,880	235	124	139
13	654	713	488	1,620	539	1,120	1,100	5,950	1,650	196	114	678
14	628	708	506	1,120	558	1,030	1,120	6,030	1,600	150	96	281
15	582	638	506	782	558	776	1,200	5,990	1,530	118	83	275
16	563	654	488	530	530	659	1,720	6,620	1,490	118	62	194
17	539	638	475	453	544	612	2,520	6,620	1,550	280	59	311
18	475	628	441	462	582	617	2,510	6,440	1,460	218	54	3,000
19	475	582	432	432	582	818	2,220	6,800	1,370	77	41	3,330
20	458	597	449	354	502	968	1,800	6,530	1,300	46	31	5,450
21	441	587	480	400	525	988	1,730	4,960	1,100	74	137	2,930
22	453	573	462	502	558	1,020	2,340	4,640	1,040	253	154	4,880
23	445	568	441	428	534	1,080	3,200	4,020	955	a150	328	4,100
24	424	558	357	278	582	1,220	3,410	3,970	916	a100	1,650	2,770
25	408	553	470	420	649	1,410	4,450	3,720	910	78	4,500	2,220
26	420	520	520	563	788	1,710	4,230	3,940	848	51	5,300	2,090
27	404	553	508	670	1,060	1,770	3,710	4,300	854	552	2,930	1,710
28	484	549	506	764	1,880	2,220	3,570	4,380	697	1,430	974	1,710
29	1,550	530	294	649	2,220	2,040	3,780	4,780	724	3,140	964	6,170
30	776	563	166	602	-	1,990	3,030	4,940	623	2,220	697	12,130
31	659	-	259	649	-	1,620	-	4,850	-	2,890	602	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	19,539	1,550	404	630	38,760
November.....	18,455	854	520	615	36,600
December.....	14,756	587	166	476	29,270
Calendar year 1939.....	570,515	11,000	0	1,563	1,131,600
January.....	19,777	1,620	266	638	39,230
February.....	25,158	2,220	502	868	49,900
March.....	37,429	2,220	612	1,207	74,240
April.....	63,150	4,450	1,090	2,105	125,300
May.....	145,590	6,800	1,910	4,696	288,800
June.....	63,627	5,250	623	2,121	126,200
July.....	16,342	3,140	46	527	32,410
August.....	20,677	5,300	31	667	41,010
September.....	57,791	12,130	139	1,926	114,600
Water year 1939-40.....	502,291	12,130	31	1,372	996,300

a No gage-height record; discharge estimated.

West Fork of San Juan River above Borns Lake, near Pagosa Springs, Colo.

Location.- Water-stage recorder, lat. 37°29'00", long. 106°55'45", in sec. 36, T. 38 N., R. 1 W., half a mile downstream from Beaver Creek, 1½ miles upstream from Borns Lake, and 16 miles northeast of Pagosa Springs.

Drainage area.- 41.2 square miles.

Records available.- April 1937 to September 1940.

Extremes.- Maximum discharge during year, 430 second-feet May 14 (gage height, 3.31 feet); minimum not determined, occurred during period of ice effect.
1937-40: Maximum discharge, 1,100 second-feet June 3, 1938 (gage height, 4.43 feet), from rating curve extended above 600 second-feet; minimum not determined.
Greatest flood known occurred Oct. 5, 1911 (discharge not determined).

Remarks.- Records good except those for period of ice effect, which are fair. No diversions or regulation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	29	24				11	44	63	203	49	23	23
2	28	23				10	41	97	171	46	21	24
3	27	21				10	40	166	168	43	20	30
4	26	20				10	37	224	142	43	18	24
5	24	20				10	39	228	135	42	18	22
6	24	21				11	39	217	123	39	23	20
7	24	19				10	38	210	115	33	21	20
8	32	18				10	39	179	110	30	19	19
9	27	18				12	40	171	99	28	18	18
10	25	18				13	42	187	86	26	17	20
11	24	18				12	43	189	81	26	16	20
12	24	16				12	46	179	75	24	16	21
13	23	17				11	54	206	74	26	15	26
14	23	15				12	70	224	72	26	15	21
15	22	12				13	95	192	69	23	17	21
16	21	12	8.0	7.5	8.5	13	80	187	65	23	16	19
17	20	12				14	74	176	60	22	15	32
18	20	12				16	70	162	58	22	15	90
19	20	12				18	90	146	58	20	24	139
20	18	12				22	124	135	56	21	32	83
21	18	11				27	132	130	68	23	27	63
22	18	11				33	135	146	79	21	24	70
23	18	11				40	142	166	87	20	27	64
24	18	10				46	137	176	57	19	55	53
25	19	9				50	133	184	53	18	47	54
26	17	10				54	156	206	55	23	42	54
27	19	9				50	137	250	49	37	35	51
28	21	8				48	90	263	47	30	30	54
29	21	8				45	70	232	51	29	29	68
30	22	8				40	59	224	65	32	25	68
31	23	-				42	-	224	-	27	26	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	695	32	17	22.4	1,380
November.....	437	24	8	14.6	867
December.....	248.0	-	-	8.0	492
Calendar year 1939.....	21,461.4	450	-	58.8	42,560
January.....	232.5	-	-	7.5	461
February.....	246.5	-	-	8.5	489
March.....	725	54	10	23.4	1,440
April.....	2,336	156	37	77.9	4,630
May.....	5,739	263	63	185	11,380
June.....	2,600	203	47	86.7	5,160
July.....	990	49	18	26.7	1,770
August.....	746	55	15	24.1	1,480
September.....	1,296	139	18	43.2	2,570
Water year 1939-40.....	16,191.0	263	-	44.2	32,120

Note.- Stage-discharge relation affected by ice Nov. 16 to Apr. 17.

West Fork of San Juan River near Pagosa Springs, Colo.

Location.- Water-stage recorder, lat. 37°22'30", long. 106°53'45", in NE¼ sec. 12, T. 36 N., R. 1 W., 30 feet downstream from highway bridge, 0.6 mile upstream from mouth, and 10 miles northeast of Pagosa Springs.

Drainage area.- 87.9 square miles.

Records available.- April 1935 to September 1940.

Extremes.- Maximum discharge during year, 735 second-feet May 14 (gage height, 3.25 feet); minimum daily, 13 second-feet Jan. 14.

1935-40: Maximum discharge, 2,250 second-feet June 15, 1935 (gage height, 6.83 feet, site and datum then in use), from rating curve extended above 1,300 second-feet; minimum daily, 10 second-feet Dec. 19, 1937.

Greatest flood known occurred Oct. 5, 1911 (discharge not determined).

Remarks.- Records excellent except those for Oct. 1 to Dec. 13, which are good, and those for period of ice effect, which are fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	49	36	20	17	19	26	85	149	448	104	44	42
2	47	36	20	16	20	23	74	191	419	96	40	39
3	43	34	20	17	19	22	71	303	379	77	37	50
4	41	35	21	17	20	21	68	419	335	71	34	43
5	39	33	19	17	21	20	75	471	307	70	32	38
6	39	35	19	16	20	21	75	444	291	66	44	35
7	39	31	18	15	19	21	74	466	264	58	40	33
8	50	30	18	16	19	22	75	427	247	55	36	31
9	42	34	18	17	19	25	80	391	230	52	31	29
10	37	30	18	17	20	27	83	419	205	50	29	32
11	37	30	18	17	21	25	81	431	181	50	28	34
12	35	30	18	16	22	23	85	403	186	48	27	32
13	35	28	17	15	21	21	111	466	180	46	26	42
14	33	26	17	13	20	23	154	538	175	46	27	38
15	31	26	18	15	22	27	164	507	170	41	31	37
16	30	26	*18	15	22	23	147	466	164	42	29	33
17	30	25	18	16	21	40	137	484	149	40	27	39
18	28	25	17	16	22	40	140	444	135	37	25	126
19	28	24	16	16	23	48	180	363	132	35	32	200
20	27	24	14	14	22	55	224	335	124	35	49	149
21	26	25	15	15	*23	63	244	311	130	38	51	105
22	26	23	16	14	24	78	244	307	142	35	41	122
23	26	23	17	*14	25	96	264	319	135	36	39	109
24	26	23	17	15	25	109	264	339	113	35	86	102
25	29	22	17	18	25	122	247	355	102	33	86	96
26	42	21	17	17	24	124	261	375	98	38	75	95
27	32	21	14	17	25	105	264	407	91	62	62	83
28	32	20	15	17	26	96	211	435	80	96	51	85
29	33	19	16	16	28	80	183	444	58	56	50	126
30	31	19	17	16	-	78	157	453	142	51	44	164
31	34	-	17	18	-	89	-	462	-	50	42	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	1,077	50	26	34.7	2,140
November.....	512	36	19	27.1	1,610
December.....	540	21	14	17.4	1,070
Calendar year 1939.....	38,843	625	14	106	77,040
January.....	495	18	13	16.0	982
February.....	637	28	19	22.0	1,260
March.....	1,603	124	20	51.7	3,180
April.....	4,522	264	68	151	8,970
May.....	12,324	538	149	398	24,440
June.....	5,852	448	80	195	11,610
July.....	1,638	104	33	52.8	3,250
August.....	1,294	86	25	41.7	2,570
September.....	2,190	200	29	73.0	4,340
Water year 1939-40.....	32,984	538	13	90.1	65,420

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Dec. 14 to Feb. 23.

Turkey Creek near Pagosa Springs, Colo.

Location.- Water-stage recorder, lat. 37°22'15", long. 106°56'45", at west side of sec. 10, T. 36 N., R. 1 W., 24 miles upstream from mouth and 8 miles northeast of Pagosa Springs.

Drainage area.- 23.0 square miles.

Records available.- May 1937 to September 1940.

Extremes.- Maximum discharge during year, 209 second-feet May 4 (gage height, 2.33 feet); minimum daily, 0.4 second-foot July 9-17, 24, 25.

1937-40: Maximum discharge, 602 second-feet May 28, 1938 (gage height, 3.20 feet), from rating curve extended above 300 second-feet; minimum daily, 0.4 second-foot Sept. 28, 1937, July 28, 26, 1939, July 9-17, 24, 25, 1940.

Greatest flood known occurred Oct. 5, 1911 (discharge not determined).

Remarks.- Records fair. A large part of flow diverted from drainage basin above station during irrigation season.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.5	7.8	9.9			10	24	55	89	4.3	0.7	2.4
2	7.5	9.9	9.1			10	24	67	80	1.8	.7	2.8
3	7.8	9.9	9.1			10	22	91	69	1.1	.7	4.0
4	7.2	9.9	8.8			10	19	128	61	.9	.7	3.0
5	7.2	8.4	8.8			10	21	128	59	.7	.7	3.0
6	7.2	6.5	8.4			10	21	116	53	.9	1.3	2.8
7	7.8	6.0	8.1			10	19	111	48	.7	3.2	2.8
8	12	5.7	9.4			10	21	96	43	.6	2.2	2.6
9	10	6.2	8.4			11	21	89	33	.4	2.0	2.6
10	8.4	5.5	8.1			12	21	93	27	.4	1.8	2.6
11	8.4	5.2	7.8			12	22	89	25	.4	1.8	2.2
12	9.1	5.2	7.8			11	26	82	23	.4	1.8	1.8
13	8.1	5.0	7.4			10	35	89	22	.4	1.7	1.8
14	5.5	5.2	6.5			11	50	98	17	.4	1.8	1.7
15	5.0	6.5	6.2			12	59	89	16	.4	2.4	1.7
16	6.8	6.2	*6.3	7.5	8.5	12	51	84	14	.4	2.8	1.4
17	6.5	6.2	7.8			13	45	91	11	.4	2.8	1.4
18	4.8	6.0	7.2			14	50	80	11	.6	2.6	7.8
19	5.0	6.0	5.7			17	78	59	10	.6	2.8	33
20	4.3	6.0	5.2			20	103	50	9.9	.6	4.0	14
21	4.0	6.2	5.0		(*)	23	91	45	9.9	.5	3.8	8.4
22	4.0	6.2	5.5			28	98	53	11	.5	3.0	18
23	3.8	6.0	5.6	(*)		34	91	71	9.4	.5	4.0	13
24	3.6	6.0	5.6			37	82	69	7.2	.4	9.4	9.4
25	4.0	5.8	5.8			43	73	71	6.0	.4	6.5	7.5
26	6.2	6.2	5.6			43	73	73	6.0	.5	5.7	7.5
27	5.5	6.5	5.8			35	73	80	5.2	.9	3.8	7.2
28	6.2	6.2	6.2			31	65	82	4.0	2.6	3.2	11
29	6.0	6.5	6.4			26	63	82	4.5	2.2	2.8	30
30	6.2	7.5	6.8			23	53	84	8.1	1.5	2.6	44
31	6.0	-	6.8			24	-	89	-	1.0	2.4	-
Month						Second-foot-days	Maximum	Minimum	Mean		Run-off in acre-feet	
October.....						201.6	12	3.6	6.50		400	
November.....						196.4	9.9	5.0	6.55		390	
December.....						221.1	9.9	5.0	7.13		439	
Calendar year 1939.....						9,067.4	175	.4	24.8		17,990	
January.....						232.5	-	-	7.5		461	
February.....						246.5	-	-	8.5		469	
March.....						562	43	10	16.8		1,150	
April.....						1,494	103	12	49.8		2,960	
May.....						2,584	128	45	63.4		5,130	
June.....						793.2	89	4.0	26.4		1,570	
July.....						27.6	4.3	.4	.89		55	
August.....						85.7	9.4	.7	2.76		170	
September.....						251.4	44	1.4	8.38		499	
Water year 1939-40.....						6,915.0	128	.4	16.9		13,710	

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 16-26, Dec. 13-17, Dec. 23 to Mar. 19.

Rio Blanco near Pagosa Springs, Colo.

Location.- Water-stage recorder, lat. $37^{\circ}12'45''$, long. $106^{\circ}47'40''$, at center of sec. 1, T. 34 N., R. 1 E., at highway bridge, 0.4 mile upstream from White Creek and 12.5 miles southeast of town of Pagosa Springs.

Drainage area.- 58 square miles.

Records available.- May 1935 to September 1940.

Extremes.- Maximum discharge during year, 506 second-feet May 17 (gage height, 2.97 feet); minimum daily, 7.2 second-feet Dec. 27.

1935-40: Maximum discharge, 1,340 second-feet May 17, 1937 (gage height, 4.06 feet), from rating curve extended above 600 second-feet; minimum daily, 6.6 second-feet Feb. 24, 27, 28, 1938.

Greatest flood known occurred Oct. 5, 1911 (discharge not determined).

Remarks.- Records good except those for period of ice effect, which are fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	25	23	11	9.4	11	22	72	108	176	56	18	18
2	22	22	11	9.0	12	21	59	139	155	48	15	20
3	19	21	11	9.4	10	21	58	178	186	41	15	21
4	18	19	12	9.2	11	19	58	220	144	38	14	20
5	15	18	11	9.4	10	19	59	220	142	38	13	15
6	13	18	11	8.4	9.4	21	56	211	153	33	16	13
7	14	20	11	8.6	9.4	23	54	214	153	32	27	16
8	21	18	11	9.2	9.2	25	56	194	150	30	27	18
9	22	18	10	9.6	9.0	29	53	203	139	25	17	13
10	23	22	11	9.6	9.0	30	52	217	130	23	16	10
11	21	23	11	9.4	9.4	27	56	217	122	23	17	11
12	18	24	10	9.0	11	28	76	208	115	22	14	18
13	17	22	10	8.0	9.4	29	105	241	117	31	13	33
14	16	20	9.6	7.4	10	32	137	254	122	40	13	24
15	16	18	10	8.0	11	32	130	254	117	34	13	21
16	14	17	9.6	8.6	10	49	101	266	108	37	13	18
17	14	16	9.6	8.8	9.4	57	91	310	103	27	12	27
18	15	16	9.6	8.4	10	54	99	352	100	30	9.8	79
19	14	14	9.0	8.8	11	71	139	257	91	27	9.2	100
20	14	13	9.0	8.4	10	82	168	226	86	24	40	60
21	13	15	9.0	9.2	11	94	176	214	79	24	54	46
22	12	14	8.4	8.4	11	123	199	229	72	29	54	48
23	13	13	8.4	8.0	*12	132	157	241	70	24	40	39
24	13	12	9.0	8.8	13	142	152	244	70	21	128	38
25	18	12	9.0	*9.4	16	144	147	254	68	20	88	39
26	27	11	9.0	9.4	16	127	142	244	58	21	62	33
27	23	12	7.2	9.4	16	103	137	232	51	28	46	27
28	21	11	8.0	9.0	17	82	119	229	48	27	34	33
29	20	11	8.6	9.4	21	66	108	223	62	27	29	50
30	18	11	9.0	9.8	-	71	99	206	79	22	25	74
31	19	-	9.4	10	-	76	-	186	-	19	22	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						548	27	12	17.7	1,090		
November.....						504	24	11	16.8	1,000		
December.....						302.4	12	7.2	9.75	600		
Calendar year 1939.....						21,789.4	320	7.2	59.7	43,230		
January.....						277.8	10	7.4	8.96	551		
February.....						334.2	21	9.0	11.5	663		
March.....						1,849	144	19	59.6	3,670		
April.....						3,105	189	52	104	6,160		
May.....						7,001	362	108	226	13,890		
June.....						3,268	186	48	109	6,480		
July.....						921	56	19	29.7	1,830		
August.....						914.0	128	9.2	29.5	1,818		
September.....						982	100	10	32.7	1,950		
Water year 1939-40.....						20,006.4	362	7.2	54.7	39,690		

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Dec. 27 to Feb. 23.

SAN JUAN RIVER BASIN

Rito Blanco near Pagosa Springs, Colo.

Location.— Water-stage recorder, lat. $37^{\circ}11'40''$, long. $106^{\circ}54'20''$, in SW $\frac{1}{4}$ sec. 12, T. 34 N., R. 1 W., at road crossing 500 feet upstream from Sheep Cabin Creek and $7\frac{1}{2}$ miles southeast of town of Pagosa Springs. Prior to Nov. 21, 1939, water-stage recorder at site 100 feet upstream at datum 2 feet higher.

Drainage area.— 23.3 square miles.

Records available.— May 1935 to September 1940.

Extremes.— Maximum discharge during year, 134 second-feet May 17 (gage height, 2.31 feet); no flow Aug. 18, 19.

1935-40: Maximum discharge, 310 second-feet June 9, 1935 (gage height, 2.87 feet, site and datum then in use); no flow July 25, Aug. 13, 14, 16-18, 20, 24-26, 1939, Aug. 18, 19, 1940.

Greatest flood known occurred Oct. 5, 1911 (discharge not determined).

Remarks.— Records good except those for periods of ice effect, which are fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.5	0.4	0.6	0.7	1.2	1.0	15	26	38	4.0	0.6	0.4
2	1.4	.2	.8	.6	1.3	.8	14	36	37	3.4	.6	.4
3	1.2	.2	.8	.7	1.2	.8	12	56	34	2.4	.5	.5
4	1.1	.2	.9	.7	1.3	.7	12	70	31	1.6	.3	.5
5	1.1	.2	1.1	.7	1.2	.7	13	72	26	1.7	.2	.5
6	1.1	.2	1.1	.6	1.1	.9	12	66	24	1.8	.5	.4
7	.7	.2	1.1	.6	1.2	1.0	12	64	21	1.4	1.0	.4
8	.5	.1	1.1	.7	1.2	1.0	14	54	18	1.2	.9	.3
9	.6	.3	1.4	.8	1.4	1.4	14	49	17	1.4	.5	.3
10	.5	.3	1.5	.8	1.2	1.6	15	49	15	1.0	.3	.3
11	.4	.2	1.1	.8	1.4	1.5	15	43	11	1.0	.4	.3
12	.4	.3	1.1	.7	1.4	1.7	20	36	9.5	.9	.3	.3
13	.4	.3	1.1	.7	1.4	1.8	30	37	9.0	.8	.2	2.1
14	.4	.2	1.0	.6	1.5	2.4	43	44	8.6	1.0	.2	.6
15	.4	.3	1.1	.7	1.5	2.7	44	54	8.6	1.2	.2	.6
16	.4	.4	.7	.8	1.4	4.3	33	60	8.2	1.1	.2	.5
17	.4	.4	.8	.9	1.2	6.1	27	82	7.4	1.0	.1	.5
18	.4	1.1	.7	.8	1.2	7.0	26	118	6.1	.9	0	4.0
19	.3	1.0	.7	.9	1.3	8.6	34	92	5.3	.7	0	7.0
20	.3	1.4	.7	.8	1.2	10	54	70	4.3	.6	.6	3.4
21	.3	1.5	.6	.9	1.1	13	58	54	4.0	1.2	2.1	2.1
22	.3	1.5	.5	.8	1.2	16	58	54	4.0	7.4	1.2	2.7
23	.3	1.6	.5	.8	*1.2	20	68	62	3.4	5.7	.8	2.1
24	.3	1.6	.5	.9	1.0	25	58	56	2.7	2.4	1.6	1.7
25	.3	1.1	.5	*.9	.9	28	49	51	2.7	1.4	1.6	2.1
26	.3	1.4	.5	1.0	.9	26	51	46	2.4	.9	1.2	1.6
27	.7	.9	.4	.9	.8	20	52	46	2.1	1.7	1.5	1.5
28	.4	1.1	.3	1.0	.9	17	38	46	1.4	1.5	.7	1.5
29	.4	.8	.4	1.0	.9	14	33	41	1.7	1.5	.6	2.1
30	.4	.8	.5	1.1	-	14	26	40	7.4	1.2	.3	1.7
31	.4	-	.6	1.1	-	15	-	40	-	.7	.3	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						18.1	1.5	0.3	0.58	36		
November.....						20.2	1.6	.1	.67	40		
December.....						24.7	1.5	.3	.80	49		
Calendar year 1939.....						3,351.0	68	0	9.18	6,650		
January.....						25.0	1.1	.6	.81	50		
February.....						34.7	1.5	.8	1.20	69		
March.....						264	28	.7	8.52	524		
April.....						950	68	12	31.7	1,880		
May.....						1,714	118	26	55.3	3,400		
June.....						370.8	38	1.4	12.4	735		
July.....						54.7	7.4	.6	1.76	108		
August.....						19.5	2.1	0	.63	39		
September.....						42.4	7.0	.3	1.41	84		
Water year 1939-40.....						3,538.1	118	0	9.67	7,010		

*Winter discharge measurement made on this day.

Note.— Stage-discharge relation affected by ice Dec. 27 to Feb. 7, Feb. 17 to Mar. 4.

Navajo River at Banded Peak ranch, near Chromo, Colo.

Location.— Water-stage recorder, lat. 37°05'00", long. 106°41'30", in 1/4 sec. 24, T. 33 N., R. 2 E., on Banded Peak ranch, half a mile downstream from Aspen Creek and 9 miles northeast of Chromo.

Drainage area.— 69.8 square miles.

Records available.— April 1937 to September 1940.

Extremes.— Maximum discharge during year, 500 second-feet May 31 (gage height, 3.05 feet); minimum daily, 12 second-feet Dec. 28.
1937-40: Maximum discharge, 876 second-feet May 28, 1938 (gage height, 3.42 feet); minimum daily, that of Dec. 28, 1939.
Greatest flood known occurred Oct. 5, 1911 (discharge not determined).

Remarks.— Records good except those for periods of ice effect, which are fair. No diversion or regulation above station.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	35	27	19	20	22	25	92	126	391	68	38	36
2	33	27	20	19	22	24	84	156	360	61	36	38
3	32	27	20	18	21	23	76	221	335	58	34	39
4	32	27	21	18	20	22	76	269	304	55	32	37
5	31	27	21	18	20	25	80	291	282	53	32	32
6	30	29	22	18	18	24	78	304	264	50	36	34
7	30	27	22	18	19	24	76	313	246	52	40	36
8	54	27	22	19	19	25	78	297	237	48	42	34
9	33	29	22	20	18	26	80	294	204	45	35	30
10	33	26	22	21	18	26	86	329	185	44	37	30
11	32	25	21	21	19	25	86	336	172	43	36	29
12	32	26	20	20	21	26	99	332	161	43	32	45
13	32	26	20	19	20	30	136	361	151	46	31	50
14	31	26	21	16	21	33	167	377	161	45	30	39
15	32	26	20	17	22	36	159	394	159	42	32	37
16	31	25	19	18	21	41	136	408	144	46	37	34
17	31	25	19	20	20	42	121	419	137	43	37	38
18	31	24	18	19	22	43	121	380	127	42	31	70
19	31	25	18	20	23	48	148	294	122	39	34	80
20	30	24	19	18	22	58	193	246	118	38	80	53
21	30	25	18	20	21	76	212	228	110	37	64	50
22	30	25	16	19	24	84	227	240	108	49	61	56
23	29	25	16	18	23	99	236	243	99	46	61	50
24	29	24	14	20	22	107	224	264	95	40	137	49
25	30	23	14	19	22	126	185	258	90	38	88	50
26	32	23	14	20	23	124	190	279	90	39	66	46
27	27	21	13	19	22	105	193	324	82	40	60	44
28	28	20	12	20	23	90	159	349	79	46	52	45
29	27	21	14	22	24	76	141	363	76	46	49	52
30	27	21	16	23	-	78	126	377	80	42	44	76
31	27	-	18	23	-	84	-	388	-	38	39	-
Month					Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet			
October.....					952	35	27	30.7	1,890			
November.....					751	29	20	25.0	1,490			
December.....					571	22	12	18.4	1,130			
Calendar year 1939					30,720	415	12	84.2	60,910			
January.....					800	23	16	19.4	1,190			
February.....					612	24	18	21.1	1,210			
March.....					1,673	126	22	54.0	3,320			
April.....					4,065	236	76	136	8,060			
May.....					9,480	419	126	305	18,760			
June.....					5,169	391	76	172	10,260			
July.....					1,422	68	37	45.9	2,820			
August.....					1,463	137	30	47.2	2,900			
September.....					1,341	80	29	44.7	2,680			
Water year 1939-40					28,079	419	12	76.7	55,680			

Note.— Stage-discharge relation affected by ice Dec. 27-31, Jan. 14-23, Feb. 6-21.

Navajo River at Edith, Colo.

Location.- Water-stage recorder, lat. 37°00'10", long. 108°54'20" (revised) in NW¼ sec. 24, T. 32 N., R. 1 W., at highway bridge at Colorado-New Mexico State line, a quarter of a mile east of Edith and 1 mile upstream from Coyote Creek.

Drainage area.- 165 square miles.

Records available.- September 1912 to December 1914 and June 1935 to September 1940 in reports of Geological Survey. September 1912 to December 1928 and June 1935 to September 1940 in reports of Colorado State engineer. September 1912 to December 1928 in reports of New Mexico State engineer.

Average discharge.- 21 years, 183 second-feet.

Extremes.- Maximum discharge during year, 635 second-feet May 18 (gage height, 3.41 feet); minimum daily, 19 second-feet Dec. 28.

1935-40: Maximum discharge, 2,370 second-feet Apr. 15, 1937 (gage height, 5.77 feet), from rating curve extended above 1,200 second-feet; minimum daily, that of Dec. 28, 1939.

Greatest flood known occurred Oct. 5, 1911 (discharge not determined).

Remarks.- Records excellent except those for period of ice effect, which are fair. Discharge above station for irrigation.

Rating table, water year 1939-40, except period of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used July 23 to Sept. 30)

0.8	22	1.1	45	2.1	206
.9	26	1.3	68	2.6	330
1.0	36	1.7	180	3.2	540

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	44	32	24	23	32	43	155	186	430	75	40	46
2	42	32	25	23	31	39	157	217	402	69	39	44
3	40	31	25	24	29	37	130	281	360	64	35	48
4	39	32	26	24	31	35	130	357	333	63	31	45
5	39	33	26	24	30	40	134	386	310	62	30	42
6	38	34	26	24	29	39	125	392	281	64	35	40
7	38	33	26	23	31	38	124	392	262	57	36	42
8	43	30	26	25	32	42	124	364	247	55	44	35
9	45	37	26	26	31	45	125	342	233	60	35	31
10	42	36	26	27	31	47	127	378	198	46	31	29
11	40	33	25	27	32	44	128	381	192	47	37	30
12	39	34	26	26	33	42	139	374	178	44	31	30
13	36	33	24	25	31	48	174	423	168	47	30	60
14	30	30	23	24	33	54	238	454	172	48	27	35
15	29	29	23	25	35	60	266	468	174	45	27	35
16	28	29	24	26	34	70	228	482	170	50	29	31
17	27	28	26	27	32	88	202	520	155	46	34	33
18	26	29	25	26	35	86	192	528	152	49	28	55
19	27	29	23	27	37	96	224	398	139	46	27	87
20	28	29	23	26	35	105	292	336	127	41	62	56
21	29	29	21	27	33	141	333	302	120	40	88	46
22	29	28	20	26	*38	162	333	302	116	40	71	56
23	29	27	20	26	36	188	354	316	111	57	72	54
24	30	28	21	28	35	206	345	319	106	44	137	49
25	30	28	21	*28	35	226	286	313	100	39	109	54
26	38	28	23	29	36	228	281	313	95	39	76	55
27	33	29	21	28	35	200	266	357	87	40	68	54
28	34	27	19	27	36	186	240	402	82	43	58	56
29	35	26	20	28	40	141	221	402	82	46	57	63
30	30	26	22	30	-	130	196	409	92	46	53	88
31	31	-	23	31	-	150	-	426	-	40	48	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	1,066	45	26	34.4	2,110
November.....	909	37	26	30.3	1,800
December.....	728	26	19	23.5	1,440
Calendar year 1939.....	41,413	500	19	113	82,130
January.....	809	31	23	26.1	1,600
February.....	968	40	29	33.4	1,920
March.....	3,056	228	35	96.6	6,060
April.....	6,309	354	124	210	12,510
May.....	11,522	528	186	372	22,850
June.....	5,674	430	82	189	11,250
July.....	1,544	75	39	49.8	3,060
August.....	1,525	137	27	49.2	3,020
September.....	1,429	88	29	47.6	2,830
Water year 1939-40.....	35,539	528	19	97.1	70,450

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected ice Dec. 21 to Mar. 20.

Little Navajo River at Chromo, Colo.

Location.- Water-stage recorder, lat. 37°02'10", long. 106°50'35", in SE¼ sec. 4, T. 32 N., R. 1 E., at highway bridge at Chromo, a quarter of a mile upstream from mouth. Prior to Nov. 21, 1939, water-stage recorder at site 400 feet downstream at different datum.

Drainage area.- 21.9 square miles.

Records available.- May 1935 to September 1940.

Extremes.- Maximum discharge during year, 63 second-feet Apr. 14 (gage height, 2.66 feet); minimum daily, 0.1 second-foot June 20 to Sept. 27.

1935-40: Maximum daily discharge, 240 second-feet (estimate!) Apr. 15, 1937; no flow Aug. 31, 1938, and July 7, 1939.

Greatest flood known occurred Oct. 5, 1911 (discharge not determined).

Remarks.- Records excellent Apr. 15 to May 31; others good except those for periods of ice effect, which are fair. Diversions above station for irrigation.

Rating tables, water year 1939-40, except periods of ice effect (gage height, in feet, and discharge, in second-feet)

(Shifting-control method used Dec. 9-25, Jan. 4-13, Jan. 25 to Feb. 6, Feb. 12 to Apr. 15)

Oct. 1 to Nov. 21

Nov. 22 to Sept. 30

2.8	0.9	1.2	0.1	1.7	3.2	2.2	24
2.9	1.3	1.3	.3	1.8	5.8	2.3	31
3.0	4.4	1.4	.6	1.9	9.0	2.5	50
		1.5	1.0	2.0	13		
		1.6	1.8	2.1	18		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.4	1.4	1.0	1.4	1.5	1.9	13	27	4.5	0.1	0.1	0.1
2	1.4	1.1	1.2	1.5	1.5	1.8	13	30	5.8	.1	.1	.1
3	1.3	1.3	1.3	1.6	1.6	1.8	11	36	4.5	.1	.1	.1
4	1.3	1.4	1.6	1.6	1.6	1.6	11	39	4.5	.1	.1	.1
5	1.6	1.4	1.6	1.6	1.6	1.8	11	39	3.5	.1	.1	.1
6	1.6	1.4	1.5	1.6	1.6	1.8	11	36	2.5	.1	.1	.1
7	1.7	1.4	1.4	1.6	1.5	2.4	9.8	34	2.4	.1	.1	.1
8	2.3	1.5	1.4	1.6	1.5	2.1	9.8	27	2.2	.1	.1	.1
9	2.3	2.3	1.6	1.6	1.4	3.1	11	23	1.7	.1	.1	.1
10	1.8	2.1	1.4	1.4	1.4	3.1	12	22	.6	.1	.1	.1
11	1.7	2.1	1.4	1.5	1.3	2.8	12	18	.4	.1	.1	.1
12	1.7	2.6	1.3	1.5	1.3	2.8	14	14	.7	.1	.1	.1
13	1.6	2.6	1.4	1.5	1.2	3.5	23	18	.4	.1	.1	.1
14	1.6	2.1	1.4	1.4	1.2	3.5	39	16	.6	.1	.1	.1
15	1.7	2.8	1.4	1.3	1.3	6.3	39	16	.3	.1	.1	.1
16	1.6	3.4	1.7	1.3	1.2	12	34	15	.7	.1	.1	.1
17	1.6	2.6	1.9	1.2	1.1	14	30	22	.2	.1	.1	.1
18	1.6	1.6	1.8	1.3	1.2	14	28	28	.2	.1	.1	.1
19	1.6	2.3	1.7	1.3	1.2	16	35	23	.2	.1	.1	.1
20	1.6	2.8	1.4	1.4	1.0	16	41	21	.1	.1	.1	.1
21	1.6	2.6	1.6	1.3	1.0	16	42	18	.1	.1	.1	.1
22	1.6	2.4	1.5	1.3	1.1	21	42	19	.1	.1	.1	.1
23	1.7	2.4	1.4	1.4	1.0	22	40	21	.1	.1	.1	.1
24	1.6	2.6	1.4	1.4	1.2	25	38	16	.1	.1	.1	.1
25	1.7	2.2	1.3	1.5	1.2	26	36	12	.1	.1	.1	.1
26	2.8	1.5	1.3	1.4	1.2	24	36	12	.1	.1	.1	.1
27	2.3	1.5	1.2	1.3	1.2	21	37	12	.1	.1	.1	.1
28	2.1	1.4	1.2	1.2	1.6	17	33	11	.1	.1	.1	.2
29	2.1	1.2	1.1	1.3	1.9	12	30	9.4	.1	.1	.1	.2
30	1.7	1.3	1.2	1.3	-	11	26	9.0	.1	.1	.1	.8
31	1.7	-	1.3	1.4	-	12	-	7.7	-	.1	.1	-
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....							53.9	2.8	1.3	1.74	107	
November.....							59.3	3.4	1.1	1.98	118	
December.....							43.9	1.9	1.0	1.42	87	
Calendar year 1939.....							3,367.2	78	0	9.23	6,680	
January.....							43.9	1.6	1.2	1.42	87	
February.....							38.5	1.9	1.0	1.33	76	
March.....							318.3	26	1.6	10.3	631	
April.....							767.6	42	9.8	25.6	1,620	
May.....							651.1	39	7.7	21.0	1,290	
June.....							36.5	5.8	.1	1.22	72	
July.....							3.1	.1	.1	.10	6.1	
August.....							3.1	.1	.1	.10	6.1	
September.....							3.9	.8	.1	.13	7.7	
Water year 1939-40.....							2,023.1	42	.1	5.53	4,010	

Note.- Stage-discharge relation affected by ice Dec. 26 to Jan. 3, Jan. 14-24, Feb. 7-11.

Piedra River at Bridge ranger station, near Pagosa Springs, Colo.

Location.- Water-stage recorder, lat. 37°25'30", long. 107°11'30", in sec. 22, T. 37 N., R. 3 W., a quarter of a mile downstream from Bridge ranger station, 1 mile downstream from Middle Fork, and 15 miles northwest of town of Pagosa Springs.

Drainage area.- 82.3 square miles.

Records available.- April 1937 to September 1940.

Extremes.- Maximum discharge during year, 586 second-feet May 14 (gage height, 2.39 feet); minimum daily, 10 second-feet Aug. 10-14, 18.

1937-40: Maximum discharge, 1,060 second feet May 28, 1938 (gage height, 3.90 feet); minimum discharge not determined.

Greatest flood known occurred Oct. 5, 1911 (discharge not determined).

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. A few small diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	55	36				18	62	102	314	50	14	19
2	52	35				19	61	149	275	40	13	19
3	50	32				19	53	238	245	33	12	35
4	45	30				20	52	348	220	34	11	31
5	40	30				21	55	367	206	36	12	25
6	36	29				22	55	348	180	33	13	23
7	34	26				22	50	360	152	29	13	21
8	47	24				23	50	299	137	27	12	17
9	41	26				24	53	279	121	22	11	19
10	35	22				24	53	320	106	18	10	16
11	33	22				24	50	320	98	17	10	15
12	32	21				21	55	302	91	17	10	14
13	31	26				19	80	345	91	18	10	13
14	29	23				20	116	414	85	16	10	13
15	27	24				25	111	364	81	15	13	13
16	27	24	12	14	16	27	89	328	76	15	15	14
17	27	22	(*)			29	89	328	68	15	11	17
18	26	20				31	104	294	65	16	10	111
19	26	18				35	147	235	59	18	15	152
20	25	16				42	190	211	56	16	22	108
21	23	17				54	196	193	58	18	24	85
22	23	16				70	201	195	66	15	22	105
23	19	16				90	215	223	62	14	25	91
24	20	15				111	198	225	53	14	46	77
25	23	15				115	178	223	46	13	54	73
26	37	15				104	192	245	43	13	50	76
27	26	15				88	188	284	39	19	36	72
28	29	15				72	142	300	35	19	30	95
29	31	15				61	116	308	39	16	28	173
30	29	14				70	98	322	76	18	28	204
31	35	-				69	-	339	-	16	22	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	1,013	55	19	32.7	2,010
November.....	659	36	14	22.0	1,310
December.....	372	-	-	12	738
Calendar year 1939.....	26,815	-	-	73.5	53,190
January.....	454	-	-	14	861
February.....	464	-	-	16	920
March.....	1,389	115	18	44.8	2,760
April.....	3,299	215	50	110	6,540
May.....	8,806	414	102	284	17,470
June.....	3,243	314	35	108	6,430
July.....	660	50	13	21.3	1,310
August.....	609	54	10	19.6	1,210
September.....	1,748	204	13	58.2	3,460
Water year 1939-40.....	22,694	414	-	62.0	45,020

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 17 to Mar. 23. No gage-height record July 4-20, 22-26, 28, 31, Aug. 1-19, Sept. 10-17, 20; discharge computed on basis of records for Williams and Weminuche Creeks near bridge ranger station, near Pagosa Springs.

Piedra River near Piedra, Colo.

Location.— Water-stage recorder, lat. 37°15', long. 107°20', in sec. 5, T. 34 N., R. 4 W., 1½ miles above crossing of U. S. Highway 450, 2 miles upstream from Yellow Jacket Creek, and 3 miles north of Piedra. Station is 2 miles upstream from staff gage at Piedra used 1911-12 and 1½ miles upstream from chain gage used Oct. 1, 1939, to Mar. 19, 1940. Datum of gage is 6,585.0 feet above mean sea level (planetable survey by the Bureau of Reclamation).

Drainage area.— 371 square miles.

Records available.— November 1911 to July 1912, October 1939 to September 1940.

Extremes.— Maximum discharge during year, 1,220 second-feet May 5 (gage height, 4.43 feet); minimum daily, 23 second-feet Dec. 20.

1911-12, 1939-40: Maximum discharge observed, 3,000 second-feet May 27, 1912 (gage height, 4.6 feet, site and datum then in use); minimum daily, that of Dec. 20, 1939.

Remarks.— Records excellent except those July 1-31, which are good, and those for periods of ice effect or no gage-height record, which are fair. Chain gage read twice daily Nov. 1 to Mar. 19. Diversions above station for irrigation.

Rating tables, water year 1939-40, except periods of ice effect (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used June 30 to July 29)

Nov. 1 to Mar. 19

Mar. 20 to Sept. 30

1.7	27	1.3	34	2.2	192
1.8	37	1.4	40	2.4	250
2.1	74	1.5	50	2.9	435
2.3	103	1.6	63	3.5	705
2.4	122	1.9	120	4.2	1,080

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		75	42	38	47	59	292	379	610	164	46	60
2		74	42	36	53	59	257	466	561	124	47	55
3		74	44	40	49	65	220	678	502	106	45	67
4		74	45	42	49	65	206	944	453	104	41	70
5		74	45	42	49	65	232	1,030	415	131	39	60
6		82	43	40	27	68	232	944	383	127	42	55
7		77	43	36	49	71	214	998	334	108	53	51
8		75	45	38	49	70	223	890	302	100	53	48
9		77	43	42	42	75	223	810	279	90	44	47
10		70	45	44	37	73	229	890	241	83	40	47
11		74	43	43	49	62	217	905	220	80	40	50
12		66	37	40	51	61	241	860	206	76	39	48
13		68	34	38	37	55	316	825	203	76	38	49
14		61	32	35	36	59	453	978	192	76	38	49
15		61	36	37	45	81	494	932	179	76	38	47
16	a60	55	36	40	41	85	431	835	187	72	40	45
17		51	43	44	47	87	379	850	169	74	39	44
18		51	32	43	45	96	379	985	152	72	38	192
19		55	25	44	47	111	494	882	133	67	38	458
20		53	23	40	49	124	682	628	133	63	60	313
21		54	27	44	45	152	800	579	131	81	87	223
22		52	28	43	48	192	770	561	129	68	65	257
23		50	34	40	48	244	820	602	140	65	70	238
24		48	33	42	47	292	740	588	116	56	108	198
25		49	36	44	53	344	669	574	104	54	161	182
26		50	30	*46	60	363	664	588	96	49	154	182
27		50	25	45	48	350	705	628	100	62	110	179
28		49	27	47	51	332	561	628	90	74	89	176
29		46	29	47	55	267	480	620	86	81	85	395
30		44	34	47	-	264	411	802	186	60	72	476
31		-	36	47	-	296	-	615	-	56	60	-
Month	Second-foot-days					Maximum	Minimum	Mean	Run-off in acre-feet			
October.....	2,480					-	-	80.0	4,920			
November.....	1,841					82	44	61.4	3,550			
December.....	1,117					45	23	36.0	2,220			
Calendar year 1939.....	-					-	-	-	-			
January.....	1,297					48	35	41.8	2,570			
February.....	1,355					60	27	46.7	2,690			
March.....	4,527					363	55	145	8,980			
April.....	13,034					820	206	434	25,850			
May.....	22,992					1,030	379	742	45,600			
June.....	7,038					610	85	235	13,960			
July.....	2,575					164	49	83.1	5,110			
August.....	1,919					161	36	61.9	3,810			
September.....	4,361					476	44	145	8,550			
Water year 1939-40.....	64,536					1,030	23	176	128,000			

*Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of records for San Juan River at Pagosa Springs.

Note.— Stage-discharge relation affected by ice Nov. 20 to Dec. 3, Dec. 19 to Jan. 27, Feb. 14, 15.

Williams Creek near Bridge ranger station, near Pagosa Springs, Colo.

Location.- Water-stage recorder, lat. 37°27'45", long. 107°11'45", in sec. 10, T. 37 N., R. 3 W., 2½ miles north of Bridge ranger station, 3½ miles upstream from mouth, and 17 miles northwest of town of Pagosa Springs.

Drainage area.- 43.7 square miles.

Records available.- May 1937 to September 1940.

Extremes.- Maximum discharge during year, 222 second-feet May 6 (gage height, 2.45 feet); minimum discharge observed, 4.7 second-feet Dec. 17 (discharge measurement, but may have been less during period of ice effect.
1937-40: Maximum discharge, 687 second-feet June 29, 1938 (gage height, 3.24 feet, from rating curve extended above 350 second-feet; minimum not determined.
Greatest flood known occurred Oct. 5, 1911 (discharge not determined).

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. No diversions above station.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	25	16					50	62	70	23	11	13
2	25	17					45	76	64	a19	10	13
3	26	16					41	118	60	a16	9.6	10
4	26	15					43	164	56	a17	9.0	10
5	26	15					47	170	54	a18	9.6	12
6	27	16					46	170	48	a15	13	13
7	27	15					45	180	47	14	11	9.0
8	27	14					44	164	46	a13	10	9.0
9	21	15					43	161	44	a14	8.5	8.5
10	18	14					41	180	42	a12	8.0	9.0
11	18	13					42	177	39	a11	7.5	9.0
12	18	12					47	167	36	a10	7.5	9.0
13	18	11					52	167	38	a10	7.5	9.0
14	17	9.6					64	174	35	a10	8.5	9.6
15	17	9.2					88	167	35	a11	9.0	9.0
16	a15	*9.0	6.2	6.8	8.4	25	80	152	35	a11	8.0	8.5
17	a14	8.5	(*)				72	149	32	a11	7.5	10
18	a14	8.0					74	135	28	11	7.5	54
19	a14	8.0					88	110	26	10	11	72
20	a14	8.0					125	105	25	12	15	47
21	a14	8.2					140	100	22	18	14	37
22	a13	8.0					140	95	21	14	13	46
23	a13	8.0					149	102	18	14	13	56
24	a12	7.6					138	95	17	13	22	52
25	a14	7.6					115	100	16	11	28	90
26	a16	7.8					108	82	17	10	28	59
27	14	8.0					105	80	15	15	21	57
28	15	7.5					86	82	14	22	17	90
29	15	7.4					74	78	14	15	16	102
30	14	7.4					64	86	28	17	15	92
31	15	-					-	80	-	13	14	-
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....							561	27	12	16.1	1,110	
November.....							326.8	17	7.4	10.9	648	
December.....							192.2	-	-	6.2	361	
Calendar year 1939.....							13,201.6	194	-	36.2	26,190	
January.....							210.8	-	-	6.8	418	
February.....							243.6	-	-	6.4	483	
March.....							775	-	-	25	1,540	
April.....							2,296	149	41	76.5	4,550	
May.....							3,928	180	62	127	7,790	
June.....							1,042	70	14	34.7	2,070	
July.....							430	23	10	13.9	853	
August.....							389.7	28	7.5	12.6	773	
September.....							1,024.6	102	8.5	34.2	2,050	
Water year 1939-40.....							11,419.7	180	-	31.2	22,650	

*Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of records for Weminuche Creek near Bridge ranger station.

Note.- Stage-discharge relation affected by ice Nov. 11 to Apr. 16.

Weminuche Creek near Bridge ranger station, near Pagosa Springs, Colo.

Location.— Water-stage recorder, lat. 37°28'15", long. 107°14'00", in sec. 5, T. 37 N., R. 3 W., 3½ miles northwest of Bridge ranger station, 5 miles upstream from mouth, and 19 miles northwest of town of Pagosa Springs.

Drainage area.— 53.4 square miles.

Records available.— April 1937 to September 1940

Extremes.— Maximum discharge during year, 232 second-feet May 5 (gage height, 3.11 feet); minimum discharge observed, 2.2 second-feet Dec. 17 (discharge measurement), but may have been less during period of ice effect.
1937-40: Maximum discharge, 651 second-feet June 29, 1938 (gage height, 4.73 feet), from rating curve extended above 400 second-feet; minimum not determined.
Greatest flood known occurred Oct. 5, 1911 (discharge not determined).

Remarks.— Records good except those for periods of ice effect or no gage-height record, which are fair. A few diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	22				11	61	a70	88	27	9.2	11
2	22	22				11	49	a85	82	12	8.6	10
3	21	20				12	44	129	74	15	7.5	11
4	20	18				12	45	166	67	13	6.5	10
5	18	19				12	52	185	62	15	6.2	9.2
6	18	17				13	52	171	57	14	8.6	8.2
7	17	16				13	49	177	49	12	9.2	7.8
8	16	16				14	48	160	43	13	8.2	7.2
9	29	18				14	46	156	40	12	6.8	7.0
10	22	15				15	45	172	36	11	6.0	7.2
11	21	15				14	44	174	32	10	5.8	7.5
12	22	14				13	47	166	29	9.2	5.2	7.5
13	21	12				12	59	158	29	8.9	5.0	10
14	18	11				14	87	174	27	8.9	4.8	8.2
15	18	10				18	93	160	26	9.2	5.0	8.2
16	17	*10				19	80	150	33	9.2	5.0	7.2
17	16	9				20	74	154	29	10	5.0	7.8
18	15	8.5				21	75	149	26	10	4.8	96
19	15	8.2				24	100	130	23	9.6	9.2	117
20	15	8.4				27	126	117	21	10	16	82
21	15	8.5				31	143	108	20	12	14	60
22	14	8.5				37	140	105	20	10	13	69
23	14	8.2				46	147	104	18	11	18	59
24	13	8.0				57	136	99	15	10	31	47
25	15	8.0				70	125	98	14	8.9	33	45
26	23	8.2				80	123	100	15	8.2	29	43
27	19	8.2				76	a110	104	15	11	20	38
28	20	8.2				70	a95	101	13	21	16	50
29	22	8.0				64	a80	97	13	17	14	97
30	20	7.8				60	a68	91	36	14	13	113
31	22	-				66	-	91	-	11	11	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						601	35	13	19.4	1,190		
November.....						370.7	22	7.8	12.4	735		
December.....						186.0	-	-	6.0	369		
Calendar year 1939.....						14,273.8	246	-	39.1	28,310		
January.....						201.5	-	-	6.5	400		
February.....						261.0	-	-	9.0	518		
March.....						966	80	11	31.2	1,920		
April.....						2,445	147	44	81.4	4,850		
May.....						4,101	185	70	132	8,130		
June.....						1,052	98	15	35.1	2,090		
July.....						379.1	27	8.2	12.2	752		
August.....						354.6	33	4.8	11.4	703		
September.....						1,061.0	117	7.0	35.4	2,100		
Water year 1939-40.....						11,976.9	185	-	32.7	23,760		

*Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of records for Piedra River at Bridge ranger station.

Note.— Stage-discharge relation affected by ice Nov. 12 to Mar. 29.

Los Pinos River below Snowslide Canyon, near Weminuche Pass, Colo.
(Locally known as Pine River)

Location.- Water-stage recorder, lat. 37°38'15", long. 107°20'00", in sec. 5, T. 39 N., R. 4 W., 100 feet downstream from Snowslide Canyon, 3¼ miles south of Weminuche Pass, and 7 miles southwest of Rio Grande Reservoir dam.

Drainage area.- 23.8 square miles.

Records available.- October 1937 to September 1940.

Extremes.- Maximum discharge during year, 217 second-feet May 13 (gage height, 2.04 feet); minimum occurred during period of no record.
1937-40: Maximum discharge, 650 second-feet May 29, 1938 (gage height, 3.26 feet), from rating curve extended above 300 second-feet; minimum occurred during period of no record.

Remarks.- Records excellent except those for period of no gage-height record, which are fair. Two small diversions above station from Los Pinos River Basin to Rio Grande Basin.

Rating table, water year 1939-40 (gage height, in feet, and discharge, in second-feet)
(Shifting-control method used Sept. 18-30)

0.7	5.0	1.1	30	1.5	81
.8	10.4	1.2	40	1.6	101
.9	16	1.3	52	1.7	125
1.0	22	1.4	66		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	12						44	50	17	7.2	9.3
2	13	9.9						54	45	15	7.2	9.9
3	13	8.6						76	40	14	7.7	11
4	12	7.7						100	38	13	6.6	9.9
5	12	7.7						110	36	13	7.7	9.3
6	12	5.5						100	32	13	10	8.8
7	12	7.2						105	28	13	9.5	8.8
8	14	7.2						100	27	14	8.2	8.2
9	13	5.0						95	24	13	7.2	7.7
10	14	7.7						106	24	13	6.6	7.7
11	14	-						108	28	12	6.6	8.2
12	13	-						91	28	12	6.1	8.8
13	12	-						111	26	12	6.6	9.3
14	12	-						115	25	11	6.6	8.2
15	10	-						106	25	11	6.6	7.7
16	10	-					45	93	24	12	6.6	7.2
17	9.9	-						80	23	11	6.6	12
18	9.3	-						66	21	10	8.8	70
19	8.8	-						62	20	9.3	12	58
20	8.8	-						56	20	9.3	14	39
21	8.8	-						52	19	9.3	11	30
22	8.2	-						48	18	8.2	10	31
23	8.2	-						52	17	7.7	10	26
24	8.8	-						58	16	8.2	16	24
25	8.8	-						59	15	7.7	15	25
26	12	-						63	15	7.7	14	23
27	18	-						65	15	9.3	12	20
28	18	-						58	14	12	11	24
29	15	-						55	16	10	11	50
30	16	-						55	24	9.3	9.9	58
31	12	-					-	55	-	8.2	9.9	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						370.6	18	8.2	12.0	755		
November 1-10.....						78.7	12	5.0	7.87	156		
December.....						-	-	-	-	-		
Calendar year						-	-	-	-	-		
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March.....						-	-	-	-	-		
April.....						1,350	-	-	45	2,680		
May.....						2,394	115	44	77.2	4,750		
June.....						753	50	14	25.1	1,490		
July.....						345.2	17	7.7	11.1	685		
August.....						288.0	16	6.1	9.29	571		
September.....						630.0	70	7.2	21.0	1,250		
Water year						-	-	-	-	-		

Note.- No gage-height record Apr. 1 to May 9; discharge computed on basis of record for Weminuche Creek near Bridge ranger station.

Los Pinos River near Bayfield, Colo.
(Locally known as Pine River)

Location.- Water-stage recorder, lat. 37°21', long. 107°36', in sec. 26, T. 36 N., R. 7 W., a quarter of a mile downstream from Red Creek and 9 miles north of Bayfield. Datum of gage is 7,415.08 feet above mean sea level (general adjustment of 1912).

Drainage area.- 284 square miles.

Records available.- October 1933 to September 1940 in reports of Geological Survey. October 1927 to September 1940 (at present site) and May to September 1926 (at site 2 miles upstream) in reports of State engineer.

Average discharge.- 13 years, 345 second-feet.

Extremes.- Maximum discharge during year, 1,110 second-feet May 17 (gage height, 3.68 feet); minimum daily, 10 second-feet Apr. 19-20 (caused by storage in Vallecito Reservoir).
1928-40: Maximum daily discharge, 5,070 second-feet May 26, 1936; minimum daily (unregulated), 38 second-feet Dec. 21, 22, 1937.
Greatest flood known occurred Oct. 5, 1911 (discharge not determined).

Remarks.- Records excellent except those Sept. 18-30, which are good. Natural regulation by many lakes. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	169	119	74	56	56	66	195	484	727	222	113	109
2	162	123	74	56	62	63	195	588	714	208	107	105
3	152	123	70	56	60	64	184	554	694	190	102	105
4	143	121	72	56	59	63	177	642	682	174	95	105
5	138	119	75	56	56	62	177	768	520	164	90	98
6	134	123	74	53	54	62	179	852	484	155	88	95
7	132	121	72	50	54	60	174	922	458	145	98	88
8	143	115	70	48	55	62	174	958	484	134	102	88
9	150	117	70	53	55	65	172	966	444	127	92	84
10	138	119	70	54	58	70	177	996	374	129	86	81
11	134	111	70	54	58	70	177	1,030	345	132	80	80
12	132	111	68	59	59	64	182	1,040	324	119	76	76
13	127	109	62	56	59	59	206	1,040	345	111	76	74
14	125	105	59	52	55	59	267	1,060	345	113	76	70
15	121	102	58	50	60	64	340	1,070	305	115	74	69
16	117	98	59	50	56	70	340	1,080	270	113	74	68
17	113	93	60	53	56	76	302	1,090	270	117	74	70
18	109	93	60	56	58	81	62	1,090	267	127	70	152
19	105	92	54	55	55	87	10	1,040	305	127	69	484
20	102	88	53	58	56	93	10	915	324	123	87	582
21	98	88	53	54	55	105	19	754	274	119	105	542
22	97	87	53	55	56	127	353	754	250	115	102	504
23	95	86	54	54	59	157	554	714	247	113	100	484
24	93	86	54	54	60	182	655	681	234	113	109	439
25	97	84	59	54	59	211	662	714	217	105	129	383
26	127	82	58	55	62	238	588	768	206	100	143	349
27	127	86	50	55	62	241	570	768	192	104	148	324
28	117	86	52	54	62	228	510	775	182	113	141	309
29	117	82	55	53	64	208	454	768	174	123	132	366
30	115	78	53	54	-	195	388	768	197	121	123	520
31	115	-	56	54	-	195	-	741	-	119	117	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	3,844	169	93	124	7,620
November.....	3,047	123	78	102	6,040
December.....	1,921	75	50	62.0	3,810
Calendar year 1939.....	94,660	1,300	50	259	187,800
January.....	1,677	59	48	54.1	3,330
February.....	1,680	64	54	57.9	3,330
March.....	3,450	241	69	111	6,840
April.....	8,433	662	10	281	16,750
May.....	26,390	1,090	454	361	52,340
June.....	10,834	727	174	174	21,490
July.....	4,090	222	100	132	8,110
August.....	3,078	148	69	99.3	6,110
September.....	6,903	582	68	230	13,690
Water year 1939-40.....	75,347	1,090	10	206	149,400

Los Pinos River at Ignacio, Colo.

Location.- Water-stage recorder, lat. 37°07'45", long. 107°37'50", in sec. 5, T. 33 N., R. 7 W., three-quarters of a mile upstream from Ignacio and about 2 miles upstream from Rock Creek.

Drainage area.- 448 square miles.

Records available.- April 1899 to October 1903, September 1910 to December 1914, October 1930 to September 1940 in reports of Geological Survey. April 1899 to October 1903, September 1910 to November 1912, March 1913 to December 1931 in reports of State engineer of New Mexico.

Average discharge.- 28 years (1910-11, 1913-40), 373 second-feet.

Extremes.- Maximum discharge during year, 754 second-feet May 17 (gage height, 3.12 feet); minimum daily, 1.9 second-feet Aug. 5-5.

1910-14, 1930-40: Maximum discharge recorded, 5,570 second-feet Aug. 27, 1932 (gage height, 6.19 feet), from rating curve extended above 2,600 second-feet by logarithmic plotting; minimum discharge observed, 0.1 second-foot Aug. 11, 1913.
Greatest flood known occurred Oct. 5, 1911 (discharge not determined), when gage was destroyed.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are poor. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	67	74	60	70	108	217	268	224	5.4	2.3	15
2	15	69	72	55	65	100	224	450	214	5.1	2.1	14
3	14	74	59	60	60	102	214	372	192	4.5	1.9	15
4	14	94	34	65	69	96	208	395	181	4.2	1.9	20
5	18	94	31	60	64	98	204	502	93	5.1	1.9	18
6	21	90	31	60	70	102	211	571	29	5.9	2.7	14
7	17	96	29	55	65	96	204	620	20	5.9	3.6	14
8	25	98	29	55	59	108	201	641	16	4.8	3.3	13
9	22	a100	29	60	65	138	201	634	19	4.8	3.0	10
10	23	98	37	*60	65	126	201	648	12	4.2	3.3	8.6
11	23	92	72	60	64	117	201	690	8.6	3.9	3.9	11
12	22	88	72	55	65	98	208	676	8.2	4.2	4.2	8.6
13	20	87	67	50	*65	85	220	669	7.7	4.2	3.6	10
14	16	85	64	50	70	81	273	669	8.2	4.5	3.9	10
15		81	62	*60	69	92	341	648	8.2	3.9	3.9	9.5
16		76	62	60	56	106	358	641	7.2	4.2	4.5	10
17	a25	72	60	64	64	117	325	685	5.9	5.0	4.5	11
18		70	60	60	65	124	714	59	5.3	4.2	29	
19		70	66	60	67	126	72	655	5.1	5.1	3.6	220
20		69	40	55	60	129	53	557	6.8	4.8	5.1	425
21	40	67	45	60	59	136	50	410	8.6	4.8	5.9	420
22	32	67	45	*60	64	156	184	354	7.7	4.5	4.8	376
23	29	70	60	60	67	181	455	321	5.9	4.2	5.1	353
24	24	67	55	60	69	204	599	258	5.4	3.6	12	350
25	26	69	60	60	74	227	613	240	5.1	3.0	24	309
26	96	72	60	60	87	258	550	289	4.8	2.7	19	265
27	88	77	45	60	92	273	490	285	4.5	3.3	14	230
28	74	79	45	55	98	273	445	281	4.5	3.6	15	214
29	69	79	50	*65	108	237	333	262	4.8	3.0	18	237
30	67	77	55	60	-	217	265	281	6.3	2.4	17	372
31	67	-	60	65	-	214	-	254	-	2.1	15	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						1,029	96	14	33.2	2,040		
November.....						2,394	100	67	79.8	4,750		
December.....						1,620	74	29	52.3	3,210		
Calendar year 1939.....						58,025.6	958	2.7	159	115,100		
January.....						1,805	85	50	58.2	3,580		
February.....						2,015	108	56	69.5	4,000		
March.....						4,525	273	81	146	8,980		
April.....						8,373	613	50	279	16,610		
May.....						14,938	714	240	482	29,630		
June.....						1,129.4	224	4.5	37.6	2,240		
July.....						136.2	8.0	2.1	4.39	270		
August.....						217.2	24	1.9	7.01	431		
September.....						4,021.7	425	8.6	134	7,980		
Water year 1939-40.....						42,203.5	714	1.9	115	83,720		

*Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of weather records and record for San Juan River at Pagosa Springs, Colo.

Note.- Stage-discharge relation affected by ice Dec. 20 to Feb. 3, Feb. 6, 9, 10, 13.

Animas River at Howardsville, Colo.

Location.- Water-stage recorder, lat. 37°50', long. 107°36', in sec. 12, T. 41 N., R. 7 W., 0.4 mile southwest of Howardsville and half a mile downstream from Cunningham Creek. Datum of gage is 9,616.98 feet above mean sea level (general adjustment of 1912).

Drainage area.- 55.9 square miles.

Records available.- May 1936 to September 1940.

Extremes.- Maximum discharge during year, 800 second-feet May 31 (gage height, 3.10 feet); minimum daily, 12 second-feet Jan. 18.
1936-40: Maximum discharge, 1,700 second-feet June 21, 1938 (gage height, 4.50 feet), from rating curve extended above 800 second-feet; minimum not determined, occurred during period of no record.
Greatest flood known occurred Oct. 5, 1911 (discharge not determined).

Remarks.- Records excellent except those for periods of ice effect, which are fair. No diversions above station.

Rating table, water year 1939-40, except periods of ice effect (gage height, in feet, and discharge, in second-feet)

0.6	12	1.3	64	2.2	300
.7	16	1.5	94	2.6	500
.9	26	1.6	112	2.8	620
1.1	42	1.8	158		
1.2	52	1.9	185		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	40	22	18	16	15	14	20	88	584	114	36	29
2	38	22	18	16	15	14	20	99	548	105	35	29
3	36	22	18	16	14	14	19	144	475	98	33	30
4	35	22	18	16	15	13	19	202	440	91	32	29
5	32	22	18	16	15	14	19	232	405	84	31	28
6	31	22	18	16	15	14	20	248	355	78	31	29
7	29	22	17	b15	15	14	20	292	350	75	32	29
8	32	22	17	b14	15	14	20	320	340	70	29	28
9	32	22	16	b15	15	14	20	430	292	65	28	27
10	28	21	17	b16	15	14	20	495	276	62	27	26
11	28	20	16	b16	14	14	20	524	305	59	26	26
12	28	20	16	16	15	14	20	548	350	56	26	27
13	28	21	16	b15	15	13	24	500	380	57	24	28
14	27	20	16	b14	15	14	28	495	395	57	24	27
15	27	20	16	b13	14	14	32	506	350	53	25	27
16	26	20	16	b12	14	14	31	475	310	56	25	26
17	26	20	16	b14	14	14	29	400	310	57	24	32
18	25	20	16	b15	15	14	37	280	276	54	24	75
19	25	20	16	b14	15	14	57	228	252	49	26	89
20	24	20	16	b15	15	14	94	224	228	48	29	81
21	24	20	16	16	14	14	132	202	220	46	28	81
22	24	19	16	*b20	14	15	148	192	210	46	29	88
23	23	19	16	b17	14	16	174	260	199	45	32	83
24	23	19	16	b16	14	17	185	360	186	43	36	78
25	24	19	b15	15	13	20	174	425	169	41	40	74
26	24	19	b14	15	14	20	172	440	153	42	40	71
27	22	19	b14	15	14	20	169	485	135	40	38	65
28	21	19	b15	b14	13	20	132	506	132	42	36	67
29	21	19	b16	15	14	20	108	518	125	40	33	78
30	22	18	b15	15	-	20	98	572	132	39	32	94
31	22	-	15	15	-	20	-	578	-	36	31	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	847	40	21	27.3	1,680
November.....	610	22	16	20.3	1,210
December.....	502	18	14	16.2	996
Calendar year	-	-	-	-	-
January.....	473	20	12	15.3	938
February.....	419	15	13	14.4	831
March.....	480	20	13	15.5	952
April.....	2,061	185	19	68.7	4,090
May.....	11,268	576	88	363	22,350
June.....	8,888	584	125	296	17,630
July.....	1,848	114	36	59.6	3,670
August.....	942	40	24	30.4	1,870
September.....	1,501	94	26	50.0	2,980
Water year 1939-40.....	29,839	584	12	81.5	59,200

*Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Animas River at Durango, Colo.

Location.- Water-stage recorder, lat. $37^{\circ}17'$, long. $107^{\circ}52'$, in sec. 20, T. 36 N., R. 9 W., at Western Colorado Power Co.'s plant at Durango, half a mile upstream from Lightner Creek. Datum of gage is 6,501.57 feet above mean sea level (general adjustment of 1929).

Drainage area.- 692 square miles.

Records available.- June 1895 to December 1905, January 1910 to December 1914, October 1933 to September 1940 in reports of Geological Survey. June 1895 to December 1905, December 1910 to September 1940 in reports of State engineer.

Average discharge.- 39 years (1895-1900, 1901-5, 1910-40), 900 second-feet.

Extremes.- Maximum discharge during year, 3,170 second-feet May 15 (gage height, 4.43 feet); minimum daily, 122 second-feet Dec. 27.

1895-1900, 1901-5, 1909-40: Maximum discharge, 25,000 second-feet Oct. 5, 1911 (gage height, 13.6 feet), from rating curve extended above 7,000 second-feet; minimum daily, 50 second-feet Dec. 22, 1917.

Remarks.- Records excellent except those for period of no gage-height record, which are good. Diversions above station for irrigation. Natural regulation by many lakes and artificial regulation for power.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Avg.	Sept.
1	364	231	194	194	160	170	350	676	2,390	588	239	246
2	346	231	190	169	166	175	360	721	2,320	521	227	227
3	328	231	194	176	163	180	332	941	2,090	482	220	227
4	319	227	194	176	166	180	319	1,430	1,750	452	208	250
5	307	227	187	176	153	180	319	1,850	1,640	427	194	242
6	294	227	187	166	146	180	332	1,660	1,440	412	198	227
7	282	223	187	140	166	190	332	2,030	1,360	398	212	220
8	286	227	187	160	163	187	341	1,900	1,300	373	205	205
9	303	231	183	169	150	194	355	2,130	1,200	350	201	194
10	290	239	183	176	150	194	360	2,460	1,060	328	190	201
11	278	223	183	163	156	190	360	2,630	1,060	315	190	194
12	270	223	183	163	163	183	360	2,770	1,100	298	176	190
13	266	223	183	163	143	180	407	2,650	1,170	298	169	194
14	258	227	169	128	153	183	521	2,790	1,250	328	166	198
15	250	220	169	134	166	187	656	2,850	1,260	307	156	194
16	250	212	169	140	146	187	644	2,600	1,080	294	160	187
17	239	208	176	153	143	194	543	2,540	1,040	303	160	194
18	235	208	173	156	146	201	510	2,070	1,020	364	150	412
19	231	201	169	146	150	208	613	1,630	923	341	153	1,130
20	223	198	156	140	166	223	896	1,460	896	298	180	941
21	220	205	156	153	160	239	1,270	1,340	823	303	194	764
22	208	205	153	160	145	262	1,270	1,250	823	278	194	808
23	198	198	163	150	160	298	1,420	1,280	779	282	216	793
24	198	201	163	169	160	341	1,380	1,650	757	274	242	652
25	208	205	160	163	165	393	1,260	1,940	708	266	298	594
26	246	208	143	160	165	437	1,150	1,970	650	258	350	549
27	250	208	122	160	170	427	1,270	2,120	594	266	355	526
28	239	205	125	156	170	398	1,020	2,310	560	278	328	499
29	231	201	134	150	170	355	853	2,140	526	294	303	588
30	220	198	166	150	-	332	750	2,150	594	266	274	845
31	220	-	194	156	-	337	-	2,280	-	254	250	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	8,057	364	198	260	15,980
November.....	6,471	259	198	216	12,840
December.....	5,286	194	122	170	10,480
Calendar year 1939.....	201,380	2,460	122	556	399,500
January.....	4,915	194	128	156	9,750
February.....	4,580	170	143	158	9,080
March.....	7,585	437	170	245	15,040
April.....	20,553	1,420	319	685	40,770
May.....	60,218	2,850	676	1,943	119,400
June.....	34,193	2,590	526	1,140	67,820
July.....	10,496	598	254	336	20,860
August.....	6,758	355	150	215	13,400
September.....	12,721	1,130	187	424	25,230
Water year 1939-40.....	181,832	2,850	122	497	360,600

Note.- No gage-height record Feb. 22 to Mar. 5; discharge computed on basis of recorded range of stage and weather records.

Animas River near Cedar Hill, N. Mex.

Location.- Water-stage recorder, lat. 37°02'15", long. 107°52'25", in sec. 7, T. 32 N., R. 9 W., three-quarters of a mile downstream from Florida River, 2.5 miles upstream from Colorado-New Mexico State line, and 8.5 miles north of Cedar Hill.

Records available.- November 1933 to September 1940.

Extremes.- Maximum discharge during year, 4,020 second-feet May 15 (gage height, 5.81 feet); minimum daily, 125 second-feet Aug. 19.
1933-40: Maximum discharge, 9,540 second-feet June 16, 1935; maximum gage height, 7.63 feet June 30, 1939; minimum daily, 90 second-feet (estimated) Jan. 21, 1935.
Greatest flood known occurred Oct. 5 or 6, 1911 (discharge not determined).

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are poor. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	397	274	215	a240	b210	309	455	805	2,660	673	251	260
2	374	274	209	a280	b260	274	487	790	2,570	606	242	243
3	354	278	206	a290	218	281	450	945	2,200	544	236	233
4	354	274	209	a280	215	284	430	1,460	1,810	504	224	257
6	354	267	212	a260	200	274	420	2,010	1,680	487	212	257
7	323	284	212	a260	191	281	440	1,800	1,490	460	260	251
6	309	281	212	a240	206	284	440	2,170	1,400	445	306	239
8	320	270	215	a220	209	284	435	2,060	1,330	410	212	224
9	354	281	212	a240	b200	323	450	2,280	1,280	384	206	212
10	330	295	212	a240	b200	323	465	2,760	1,160	346	209	221
11	316	267	209	b265	197	284	465	2,960	1,150	330	212	209
12	306	267	206	b280	203	264	470	3,060	1,200	326	194	206
13	302	267	206	b265	b190	242	514	2,960	1,280	323	185	212
14	292	264	194	b220	b200	242	638	3,160	1,370	354	176	215
15	284	264	194	b180	197	236	790	3,480	1,340	360	170	203
16	278	254	191	b180	191	257	835	3,060	1,160	330	160	188
17	270	245	200	b180	173	264	735	2,960	1,100	566	158	209
18	267	243	194	b200	188	274	659	2,380	1,100	392	140	a375
19	264	242	188	b200	179	267	752	1,820	1,030	388	125	1,260
20	264	236	b180	b185	176	270	1,060	1,560	1,010	326	345	1,230
21	251	239	b175	b185	176	284	1,490	1,460	954	302	254	921
22	242	245	b180	b190	179	316	1,640	1,430	921	302	239	913
23	233	239	b195	b165	218	366	1,800	1,440	913	302	233	996
24	233	236	b195	b175	230	430	1,840	1,780	850	302	622	873
25	242	239	b180	b200	215	482	1,650	2,060	806	274	409	762
26	326	239	b170	b210	274	562	1,440	2,050	730	267	388	680
27	323	239	b170	b210	306	574	1,550	2,270	680	274	388	652
28	281	236	a160	b210	312	550	1,310	2,570	612	284	366	612
29	270	233	a160	b215	326	465	1,050	2,250	600	298	326	694
30	260	224	a175	b210	-	435	929	2,250	626	281	292	1,110
31	264	-	a210	b200	-	425	-	2,480	-	257	270	-
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....							9,167	397	233	296	18,180	
November.....							7,701	295	224	257	15,270	
December.....							6,056	215	160	195	12,010	
Calendar year 1939.....							229,611	2,760	130	629	455,500	
January.....							6,875	290	165	222	13,640	
February.....							6,239	326	173	215	12,370	
March.....							10,406	574	236	336	20,640	
April.....							26,082	1,940	420	869	51,730	
May.....							66,440	3,480	790	2,143	131,800	
June.....							56,961	2,660	600	1,253	73,560	
July.....							11,687	873	257	377	23,180	
August.....							7,909	622	125	255	15,690	
September.....							14,912	1,260	188	497	29,580	
Water year 1939-40.....							210,455	3,480	125	575	417,400	

Peak discharge.- May 15 (10 to 11 a.m.) 4,020 sec.-ft.; July 17 (6 p.m.) 3,480 sec.-ft.; Aug. 20 (3 p.m.) 2,760 sec.-ft.; Aug. 24 (2 p.m.) 1,620 sec.-ft.; Aug. 24 (4 p.m.) 1,890 sec.-ft.
a No gage-height record; discharge computed on basis of weather records and records for San Juan River at Pagosa Springs, Colo., Los Pinos River at Ignacio, Colo., and Animas River at Farmington, N. Mex.

b Stage-discharge relation affected by ice.

Animas River at Farmington, N. Mex.

Location.— Water-stage recorder, lat. $36^{\circ}43'20''$, long. $108^{\circ}12'00''$, in SE $\frac{1}{4}$ sec. 16, T. 29 N., R. 13 W., 25 feet downstream from bridge on State Highway 17, half a mile south-east of Farmington, and 1.1 miles upstream from mouth.

Drainage area.— 1,360 square miles.

Records available.— June 1904 to October 1905 (published as Animas River near Farmington), September 1912 to December 1914 and October 1930 to September 1940 in reports of Geological Survey. June 1904 to October 1905 (published as Animas River near Farmington), September 1912 to December 1931 in reports of State engineer.

Extremes.— Maximum discharge during year, 3,740 second-feet May 15 (gage height, 4.94 feet), from rating curve extended above 3,500 second-feet by logarithmic plotting; minimum daily, 8.5 second-feet Aug. 18.

1930-40: Maximum discharge, 9,350 second-feet June 16, 1935, from rating curve extended above 6,400 second-feet by logarithmic plotting; maximum gage height, 7.25 feet June 30, 1935, site and datum then in use; minimum daily discharge, that of Aug. 18, 1940.

Greatest flood known occurred Oct. 5, 1911 (discharge not determined).

Remarks.— Records good except those for periods of no gage-height record, which are fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	386	246	231	a280	249	332	390	649	2,310	466	49	163
2	363	246	220	324	316	299	425	522	2,310	420	54	148
3	328	238	220	316	307	307	435	568	2,160	337	28	119
4	316	238	220	316	287	299	410	978	1,790	295	24	101
5	320	242	220	291	272	299	381	1,660	1,640	276	20	106
6	303	249	216	295	242	291	381	1,790	1,360	246	21	89
7	287	253	218	268	258	284	376	1,960	1,190	224	164	75
8	291	253	220	242	246	287	368	2,080	1,100	213	21	62
9	291	272	227	368	238	299	354	2,000	1,050	179	45	60
10	276	287	227	272	224	324	332	2,390	922	119	25	47
11	246	299	227	291	227	307	350	2,730	845	77	24	44
12	227	276	224	324	242	291	354	2,820	860	53	25	45
13	220	268	220	303	220	268	354	2,910	898	34	18	45
14	213	268	220	253	246	260	400	2,910	994	28	15	53
15	196	264	206	196	242	257	592	3,180	1,040	32	12	54
16	192	264	213	196	246	264	759	3,090	1,020	37	10	54
17	238	249	213	210	258	276	703	2,910	845	32	10	58
18	280	249	224	227	220	287	550	2,560	830	299	8.5	182
19	a280	249	224	227	a220	295	612	2,080	766	216	30	696
20	a275	238	213	213	a220	291	696	1,600	689	167	29	1,270
21	a275	224	202	216	220	295	1,110	1,430	682	101	261	1,020
22	276	231	210	220	231	320	1,400	1,360	604	81	114	860
23	253	234	224	192	242	350	1,400	1,320	636	66	89	1,030
24	257	224	231	196	249	386	1,540	1,480	562	58	133	914
25	272	220	227	231	246	435	1,400	1,860	539	56	568	738
26	324	224	a210	224	253	517	1,240	2,000	478	45	390	630
27	303	227	a190	234	520	556	1,220	2,160	420	51	360	568
28	284	227	a180	231	544	581	1,250	2,160	363	73	315	706
29	264	231	a180	242	316	484	954	2,160	328	75	280	630
30	249	231	a200	231	-	410	794	2,160	381	75	242	1,010
31	238	-	a240	224	-	395	-	2,230	-	66	199	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	8,513	386	182	275	16,890
November.....	7,421	299	220	247	14,720
December.....	6,695	240	180	216	13,280
Calendar year 1939.....	197,288	2,570	17	541	391,400
January.....	7,853	368	192	253	15,580
February.....	7,328	320	220	253	14,530
March.....	10,509	556	257	339	20,840
April.....	21,430	1,640	332	714	42,510
May.....	61,757	3,180	522	1,992	122,500
June.....	29,512	2,310	328	984	58,540
July.....	4,477	456	28	144	8,880
August.....	3,673.5	558	8.5	118	7,290
September.....	11,577	1,270	44	386	22,960
Water year 1939-40.....	180,745.5	3,180	8.5	494	358,500

a No gage-height record; discharge computed on basis of weather records and records for Animas River near Cedar Hill and Los Pinos River at Ignacio, Colo.

Mineral Creek near Silverton, Colo.

Location.- Water-stage recorder, lat. 37°48'50", long. 107°41'45", in sec. 13, T. 41 N., R. 8 W., 300 feet upstream from Bear Creek and 2 miles west of Silverton.

Drainage area.- 43.9 square miles.

Records available.- May 1936 to September 1940.

Extremes.- Maximum discharge during year, 660 second-feet May 31 (gage height, 3.23 feet); minimum daily, 9.2 second-feet Jan. 13.

1936-40: Maximum discharge, 1,700 second-feet June 29, 1936 (gage height, 4.69 feet), from rating curve extended above 500 second-feet; minimum occurred during period of no record.

Greatest flood known occurred Oct. 5, 1911 (discharge not determined).

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. No diversions above station.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	51	26	15	14	16	14	27	63	500	118	42	31
2	47	25	15	14	16	14	25	83	450	106	41	34
3	44	25	14	14	15	14	22	130	380	101	38	35
4	42	24	16	14	15	14	20	195	350	93	35	32
5	39	23	16	14	15	12	22	211	320	86	34	31
6	38	24	15	14	14	14	21	223	291	81	35	31
7	37	21	16	13	14	12	23	251	268	76	34	30
8	39	21	15	14	13	13	23	264	251	72	31	29
9	37	21	16	14	13	14	23	320	231	68	30	28
10	32	19	16	14	14	14	21	390	227	63	29	27
11	34	20	16	14	15	13	19	395	251	59	28	26
12	32	21	14	14	14	12	21	410	273	58	27	28
13	31	21	13	9.2	13	12	31	400	300	63	27	28
14	31	18	13	b10	15	12	48	400	325	59	26	27
15	30	18	13	b11	16	13	55	415	278	56	26	27
16	29	18	14	b14	16	13	42	385	243	59	27	26
17	28	17	14	b18	15	14	37	335	251	68	26	37
18	27	16	14	b17	14	14	42	247	239	68	26	176
19	27	15	11	b16	16	14	74	211	223	56	27	161
20	26	17	12	b17	14	16	124	207	211	56	30	157
21	25	17	12	b16	14	18	150	183	203	55	28	139
22	25	16	12	*b16	16	21	171	171	191	56	29	161
23	25	16	12	b15	14	26	187	215	179	56	32	136
24	25	17	13	b16	14	31	168	264	171	56	45	112
25	26	17	14	15	14	38	136	278	157	58	55	99
26	26	18	13	14	12	39	136	300	139	58	56	93
27	22	17	14	14	14	35	127	360	130	53	50	83
28	21	17	14	14	14	30	93	365	124	61	44	93
29	23	16	14	14	14	27	72	370	121	55	38	146
30	24	15	14	15	-	27	61	405	139	51	34	161
31	25	-	14	15	-	29	-	460	-	47	32	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	968	51	21	31.2	1,920
November.....	576	26	15	19.2	1,140
December.....	434	16	11	14.0	861
Calendar year 1939.....	-	-	-	-	-
January.....	443.2	18	9.2	14.3	879
February.....	419	16	12	14.4	831
March.....	539	39	12	19.0	1,170
April.....	2,021	187	19	67.4	4,010
May.....	8,906	460	63	287	17,660
June.....	7,416	500	121	247	14,710
July.....	2,072	118	47	66.8	4,110
August.....	1,062	56	26	34.3	2,110
September.....	2,255	191	26	75.2	4,470
Water year 1939-40.....	27,161.2	500	9.2	74.2	53,870

*Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.- No gage-height record Jan. 29 to Feb. 17; stage-discharge relation probably affected by ice during part of period.

Cascade Creek near Tacoma, Colo.

Location.- Staff gage, lat. 37°40', long. 107°49', in sec. 11, T. 39 N., R. 9 W., at crossing of U. S. Highway 550, 10 miles north of Tacoma.

Drainage area.- 26.8 square miles.

Records available.- October 1934 to September 1940 in reports of Geological Survey. October 1926 to September 1940 in reports of State engineer. January 1915 to September 1926 in files of office of State engineer.

Average discharge.- 26 years, 51.1 second-feet.

Remarks.- Complete records furnished by Western Colorado Power Co. No diversions above station. Flow in flume is combined with flow over diversion dam to get total flow in creek. Staff gage read twice daily.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	34	10	7.1	3.3	3.3	3.3	12	28	186	56	18	14
2	32	12	6.1	3.3	3.3	3.3	9.3	39	182	31	17	12
3	32	12	6.1	3.3	3.3	3.3	8.8	60	173	31	17	15
4	27	12	6.1	3.3	3.3	3.3	10	103	164	26	14	14
5	24	12	6.1	3.3	3.3	3.3	10	129	154	26	12	12
6	22	12	6.1	3.3	3.3	3.3	9.3	145	137	26	12	12
7	20	12	6.1	3.3	3.3	3.3	9.3	141	129	24	15	11
8	20	12	6.1	3.3	3.3	3.3	10	141	112	24	12	11
9	18	10	6.1	3.3	3.3	3.3	10	172	105	22	12	11
10	20	10	6.1	3.3	3.3	3.3	12	195	95	22	12	11
11	18	10	6.1	3.3	3.3	3.3	12	188	95	22	11	11
12	18	12	5.1	3.3	3.3	3.3	17	207	95	22	11	11
13	18	10	5.1	3.3	3.3	3.3	27	235	103	22	11	14
14	17	12	5.1	3.3	3.3	3.3	33	221	107	20	11	12
15	17	12	5.1	3.3	3.3	3.3	36	226	103	18	11	12
16	16	9.3	5.1	3.3	3.3	4.2	22	207	87	20	11	12
17	16	9.3	5.1	3.3	3.3	4.2	18	197	76	22	10	14
18	14	9.3	5.1	3.3	3.3	4.2	24	164	69	22	10	120
19	14	9.3	5.1	3.3	3.3	6.1	42	137	62	24	11	103
20	14	8.2	5.1	3.3	2.5	7.1	60	187	60	24	12	80
21	13	8.2	5.1	3.3	3.3	8.2	75	103	66	22	11	60
22	13	8.2	5.1	3.3	3.3	10	90	103	60	20	11	80
23	12	8.2	5.1	3.3	3.3	12	107	150	53	18	14	69
24	12	8.2	4.2	3.3	3.3	17	90	187	53	18	20	60
25	12	8.2	4.2	3.3	3.3	24	66	175	50	22	31	47
26	10	7.1	3.3	3.3	3.3	24	56	187	44	24	33	44
27	10	7.1	3.3	3.3	3.3	23	53	205	42	22	28	42
28	10	7.1	3.3	3.3	3.3	17	44	182	39	26	22	44
29	10	7.1	3.3	3.3	3.3	17	39	182	31	26	18	112
30	10	7.1	3.3	3.3	-	14	31	187	42	22	18	112
31	10	-	3.3	3.3	-	12	-	187	-	20	15	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	533	34	10	17.2	1,060
November.....	291.9	12	7.1	9.73	579
December.....	157.5	7.1	3.3	5.03	312
Calendar year 1939.....	14,093.6	223	3.3	38.6	27,960
January.....	102.3	3.3	3.3	3.30	203
February.....	94.9	3.3	2.5	3.27	188
March.....	253.5	24	3.3	8.18	503
April.....	1,042.7	107	8.8	34.8	2,070
May.....	4,918	235	23	159	9,750
June.....	2,772	156	31	92.4	5,500
July.....	724	36	18	23.4	1,440
August.....	471	33	10	15.2	934
September.....	1,182	120	11	39.4	2,340
Water year 1939-40.....	12,542.8	235	2.5	34.3	24,860

Lightner Creek near Durango, Colo.

Location.- Water-stage recorder, lat. 37°16', long. 107°53', in sec. 30, T. 35 N., R. 9 W., half a mile above mouth and half a mile west of Durango. Prior to Oct. 1, 1939, water-stage recorder at site 2 miles upstream at different datum.

Drainage area.- 66 square miles.

Records available.- October 1939 to September 1940. October 1933 to September 1939 in reports of Geological Survey, and June 1927 to September 1939 at site 2 miles upstream in reports of State engineer.

Average discharge.- 13 years, 19.2 second-feet.

Extremes.- Maximum discharge during year, 322 second-feet Aug. 24 (gage height, 2.92 feet); minimum daily, 1 second-foot or less at times during period of ice effect.

1927-40: Maximum discharge, 1,830 second-feet June 26, 1937 (gage height, 5.00 feet, from floodmarks, site and datum then in use), by slope-area method; minimum daily, 1 second-foot or less at times during periods 1930-31, 1933-35, 1936-40.

Remarks.- Records fair except those for period of ice effect, which are poor. No diversions above station.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.7	4.3	2.0	(*)		2.0	23	27	11	2.2	4.8	3.7
2	1.8	4.3	2.2			2.0	21	24	11	1.9	4.8	3.7
3	2.1	4.1	2.0			2.5	22	31	9.8	1.9	4.5	3.7
4	2.2	3.9	2.0			2.5	24	41	9.4	2.3	4.5	3.9
5	2.1	4.3	2.1			3.0	24	42	10	4.8	4.5	3.3
6	2.5	4.1	2.2			3.3	23	34	8.6	a6	4.5	3.1
7	3.3	3.9	2.2			3.3	21	33	7.0	a5	4.3	3.1
8	3.3	4.1	2.2			3.7	21	32	6.6	5.0	4.8	2.7
9	3.3	4.8	2.4			6.8	23	29	6.0	3.5	4.1	2.4
10	3.3	3.9	2.2			6.2	28	28	5.8	2.7	12	2.4
11	3.9	3.5	2.0			5.0	28	28	5.2	2.5	9.4	2.7
12	3.1	3.5	2.1			4.1	31	29	5.0	2.9	7.0	2.4
13	3.3	a3.5	2.2			4.5	38	30	4.5	2.9	2.7	2.4
14	3.5	a3.3	2.2			3.9	52	33	4.5	2.9	1.7	2.7
15	3.5	a3.2	2.3			4.1	60	30	4.1	2.7	1.5	2.4
16	3.7	a3.0	2.2	1.0	1.5	5.8	46	32	4.3	2.2	2.4	2.5
17	4.1	a3.0	2.0			6.8	34	33	4.5	2.0	5.0	4.5
18	4.3	a2.7	1.9			5.8	31	31	3.9	2.2	4.8	7.0
19	3.9	a2.5	2.0			6.0	37	26	3.9	2.2	5.0	3.3
20	3.9	a2.3	2.0			6.0	51	21	7.0	2.2	9.0	2.5
21	4.5	2.3	2.0			7.4	60	18	4.8	2.3	14	2.3
22	4.5	2.5	2.2			11	55	19	3.9	6.5	7.0	2.7
23	3.9	2.3	2.0			20	50	20	3.5	5.8	26	2.7
24	3.9	2.3	1.9			24	44	20	3.3	8.2	44	2.3
25	4.8	2.5	1.8			28	37	18	3.1	9.4	18	2.0
26	6.8	2.4	1.7			28	33	16	3.3	9.0	10	1.7
27	5.5	2.1	1.6			35	32	14	3.5	6.8	7.0	1.5
28	5.2	2.1	1.5			33	30	12	3.3	6.2	7.0	3.1
29	4.3	2.0	1.5			27	35	12	2.5	4.1	5.0	1.8
30	4.1	2.0	1.4			23	29	11	2.2	4.5	4.3	168
31	4.1	-	1.4			23	-	11	-	4.3	4.1	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	114.4	6.8	1.7	3.69	227
November.....	94.9	4.8	2.0	3.16	188
December.....	61.4	2.4	1.4	1.98	122
Calendar year 1939.....	3,265.0	72	-	8.95	6,480
January.....	31.0	-	-	1.0	61
February.....	43.5	-	-	1.5	86
March.....	346.7	35	2.0	11.2	688
April.....	1,043	60	21	34.8	2,070
May.....	794	42	11	25.3	1,560
June.....	165.4	11	2.2	5.51	328
July.....	127.1	9.4	1.9	4.10	252
August.....	247.7	44	1.5	7.99	491
September.....	252.5	168	1.5	8.42	501
Water year 1939-40.....	3,311.6	168	-	9.06	6,570

*Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of weather records.

Note.- Stage-discharge relation affected by ice Dec. 27 to Mar. 5.

Florida River near Durango, Colo.

Location.- Water-stage recorder, lat. 37°20', long. 107°45', in sec. 4, T. 35 N., R. 8 W., just downstream from Red Creek and 10½ miles northeast of Durango. Datum of gage is 7,301.88 feet (revised) above mean sea level (general adjustment of 1929).

Drainage area.- 96 square miles.

Records available.- May to July 1899, April 1901 to October 1903, September 1910 to September 1912, and October 1933 to September 1940 in reports of Geological Survey. May to July 1899, April 1901 to October 1903, September 1910 to September 1924, and April 1927 to September 1940 in reports of State engineer. Station has been located at several different sites in the vicinity; all records equivalent.

Average discharge.- 22 years (1910-12, 1917-24, 1927-40), 122 second-feet.

Extremes.- Maximum discharge during year, 565 second-feet May 14 (gage height, 2.75 feet); minimum daily, 5.0 second-feet Dec. 28, 29, Jan. 7, 8, 19, 20, 25, Feb. 12, 13.
1899, 1901-3, 1910-24, 1927-40: Maximum discharge observed, 4,640 second-feet June 28, 1927 (gage height, 4.50 feet, site and datum then in use); minimum daily, 0.4 second-foot Feb. 15, 1918.

Greatest flood known occurred Oct. 5, 1911 (discharge not determined).

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	40	22	6.5	5.5	5.6	7.0	a50	94	208	53	18	21
2	37	22	6.4	6.2	5.9	6.8	a50	110	194	45	16	18
3	36	21	6.6	6.4	5.8	6.6	a47	176	171	40	14	20
4	34	22	7.8	6.2	5.6	6.6	a45	282	154	36	11	21
5	31	22	7.6	5.4	5.4	6.6	a45	743	133	35	9.7	19
6	28	22	7.6	5.2	5.3	6.4	a46	307	119	35	11	16
7	27	21	7.5	5.0	5.6	6.2	47	359	106	33	15	15
8	33	22	7.8	5.0	5.5	6.3	45	343	100	28	15	12
9	30	23	8.0	7.0	5.1	7.2	52	374	92	25	11	11
10	28	20	8.2	8.0	5.5	8.0	52	398	81	21	9.2	8.8
11	30	21	9.0	8.2	5.2	7.7	49	410	81	19	7.9	9.2
12	29	22	8.4	8.4	5.0	6.3	52	414	79	18	7.9	11
13	27	19	8.0	7.5	5.0	6.2	54	351	73	18	7.5	13
14	27	18	8.0	5.3	5.4	7.0	82	418	68	16	9.2	12
15	25	18	7.4	5.2	5.6	9.0	98	414	70	16	9.2	10
16	23	19	8.4	5.1	*5.6	10	94	366	66	18	9.2	9.2
17	23	20	8.3	5.3	5.5	13	81	347	59	30	9.7	10
18	22	18	8.2	*5.6	5.5	16	73	282	56	47	8.4	7.9
19	22	16	8.1	5.0	5.5	19	88	232	53	37	7.9	214
20	21	14	7.9	5.0	5.5	21	130	214	49	31	11	168
21	20	15	7.7	5.3	5.7	25	158	186	46	27	11	137
22	19	10	8.1	5.2	5.7	29	174	179	48	30	19	192
23	18	8.4	*8.3	5.1	5.9	38	205	194	75	36	21	156
24	19	6.2	7.0	5.2	6.0	43	186	244	56	32	29	124
25	21	*11	9.9	5.0	6.1	49	161	269	51	29	35	102
26	29	6.0	6.0	5.2	6.3	54	149	279	47	27	39	84
27	19	6.0	5.8	5.6	6.5	58	161	282	43	27	35	77
28	22	6.2	5.0	5.4	6.2	a55	135	256	41	29	31	86
29	22	6.4	5.0	5.3	6.9	a52	113	229	38	29	27	154
30	19	6.5	5.2	5.5	-	a50	102	220	51	28	23	197
31	21	-	5.3	5.5	-	a50	-	220	-	25	22	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	802	40	18	25.8	1,590
November.....	483.7	23	6.0	16.1	959
December.....	228.5	9.2	5.0	7.27	453
Calendar year 1939.....	20,920.1	426	3.9	57.3	41,490
January.....	178.8	8.4	5.0	5.77	355
February.....	165.0	6.9	5.0	5.69	327
March.....	685.9	58	6.2	22.1	1,360
April.....	2,834	205	45	94.5	5,620
May.....	8,792	418	94	284	17,440
June.....	2,508	208	38	83.6	4,970
July.....	920	53	16	29.7	1,820
August.....	509.8	39	7.5	16.4	1,010
September.....	2,006.2	214	8.8	66.9	3,980
Water year 1939-40.....	20,113.9	418	5.0	55.0	39,880

*Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of records for Animas River at Durango.

Note.- Stage-discharge relation affected by ice Nov. 17 to Mar. 18.

La Plata River at Hesperus, Colo.

Location.- Water-stage recorder, lat. 37°17', long. 108°03', in sec. 14, T. 35 N., R. 11 W., an eighth of a mile west of Hesperus. Datum of gage is 8,107.75 feet above mean sea level (datum of Bureau of Reclamation).

Drainage area.- 37 square miles.

Records available.- June to August 1904, April to August 1906, August to December 1910, and October 1933 to September 1940 in reports of Geological Survey. June to August 1904, April to August 1906, August to December 1910, and May 1917 to September 1940 in reports of State engineer.

Average discharge.- 23 years (1917-40), 46.5 second-feet.

Extremes.- Maximum discharge during year, 250 second-feet May 15 (gage height, 1.80 feet); minimum daily, 3.6 second-feet Dec. 16-20, but may have been less during period of ice effect.

1904, 1906, 1910, 1917-40: Maximum discharge, 1,460 second-feet June 23, 1927 (gage height, 4.80 feet, datum then in use); no flow Apr. 4, 1906.

Greatest flood known occurred Oct. 5, 1911 (discharge not determined).

Remarks.- Records good except those for period of ice effect, which are fair. One diversion above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.		
1	9.1	5.6	5.1	(*)	(*)	4.8	36	50	114	20	12	14		
2	9.1	5.6	5.1			5.0	34	62	106	24	12	14		
3	9.1	5.4	5.1			5.0	32	88	104	23	11	14		
4	9.1	5.4	5.1			5.0	30	132	109	22	10	14		
5	7.9	5.4	5.1			5.0	30	152	99	21	9.7	13		
6	7.3	5.4	5.1	4.3 (*)	4.8	5.0	30	142	92	22	10	12		
7	7.0	5.4	4.5			5.0	36	161	82	18	10	11		
8	7.6	5.6	4.5			5.0	39	150	67	16	8.4	11		
9	6.7	6.2	4.5			5.0	42	150	31	14	7.0	11		
10	6.7	6.4	4.5			5.0	44	161	24	14	7.0	11		
11	5.9	6.4	4.5			5.3	44	147	27	14	5.3	10		
12	5.6	6.2	4.3			5.3	60	139	29	12	4.7	9.7		
13	5.4	6.2	4.3			*5.3	68	145	27	12	4.7	7.9		
14	5.4	6.2	4.3			5.3	103	170	28	12	7.0	6.0		
15	5.4	6.2	4.3			5.3	122	196	24	11	6.6	4.7		
16	5.4	5.9	3.6	4.3 (*)	4.8	5.6	90	189	20	12	6.0	4.4		
17	5.4	5.9	3.6			5.8	68	177	21	11	6.0	5.6		
18	5.4	5.6	3.6			6.0	68	152	21	11	6.0	19		
19	5.6	5.4	3.6			6.2	107	118	33	11	5.3	45		
20	6.2	5.4	3.6			6.6	167	100	45	9.2	6.0	36		
21	6.2	5.1	3.7	(*)	7.3	164	74	42	8.8	7.5	30			
22	6.2	5.1	3.7			8.2	150	79	44	8.8	7.9	28		
23	5.9	5.1	3.7			8.5	137	82	42	8.8	6.0	29		
24	5.6	5.1	3.8			9.7	103	91	40	9.7	8.8	30		
25	5.9	5.4	3.8			14	84	84	36	9.7	8.4	27		
26	8.8	5.4	3.8	-	-	39	84	94	34	11	7.9	26		
27	7.0	5.4	3.8			41	86	111	32	11	9.2	25		
28	6.4	5.4	3.8			37	71	106	30	12	11	28		
29	6.2	5.4	3.8			36	60	114	28	12	12	35		
30	5.9	5.4	3.8			36	52	116	28	12	12	52		
31	5.9	-	3.8			35	-	124	-	11	12	-		
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet				
October.....						205.3	9.1	5.4	6.62	407				
November.....						168.6	6.4	5.1	5.62	334				
December.....						129.8	5.1	3.6	4.19	257				
Calendar year 1939.....						8,307.9	174	1.0	22.8	16,470				
January.....						133.3	-	-	4.3	264				
February.....						139.2	-	-	4.8	276				
March.....						378.2	41	4.8	12.2	750				
April.....						2,241	167	30	74.7	4,440				
May.....						3,856	166	50	124	7,650				
June.....						1,459	114	20	48.6	2,890				
July.....						424.0	24	8.8	13.7	841				
August.....						257.4	12	4.7	8.30	511				
September.....						583.3	52	4.4	19.4	1,160				
Water year 1939-40.....						9,975.1	196	-	27.3	19,780				

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Dec. 19 to Mar. 20.

La Plata River at Colorado-New Mexico State line

Location.- Water-stage recorder, lat. 37°00', long. 108°11', in sec. 10, T. 32 N., R. 13 W., 300 feet south of Colorado-New Mexico State line and 3 miles north of Pendleton, N. Mex. Datum of gage is 5,975.15 feet above mean sea level (general adjustment of 1929).

Drainage area.- 331 square miles.

Records available.- October 1933 to September 1940 in reports of Geological Survey. February 1920 to September 1940 in reports of State engineer of Colorado.

Average discharge.- 20 years, 34.8 second-feet.

Extremes.- Maximum discharge during year, 1,460 second-feet Aug. 24 (gage height, 5.83 feet); no flow Oct. 14, 20-25, 28-31, Nov. 5, 7, 8, 11-16, May 21, 23-29, June 10-19, July 2-12, Aug. 5, Sept. 6-10, 13-15.

1920-40: Maximum discharge, 4,750 second-feet Aug. 24, 1927 (gage height, 11.36 feet); no flow at times in 1922, 1924, 1928, 1930, 1933-40.

Remarks.- Records good except those for period of ice effect, which are fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	0.1	5.2	6.1	12	21	15	16	85	1.2	1.1	1.4
2	.1	.2	4.8	*6.1	20	20	19	16	83	0	1.1	.7
3	.1	.5	3.4	7.0	12	16	16	19	73	0	.7	.6
4	.1	.2	3.4	4.6	12	16	16	50	98	0	.2	.7
5	.2	0	3.6	7.6	10	14	17	71	90	0	0	.5
6												
7	.5	.1	3.6	6.5	7.8	14	14	49	85	0	.1	0
8	.2	0	3.4	5.3	11	14	12	56	76	0	22	0
9	.7	0	3.4	10	9.8	14	9.8	66	64	0	.8	0
10	.7	1.8	2.6	11	7.8	16	12	67	14	0	1.2	0
11	.1	1.0	3.2	11	6.1	15	12	73	0	0	.2	0
12	.1	0	4.2	10	6.3	14	14	66	0	0	.2	.7
13	.2	0	3.6	12	8.2	12	19	74	0	0	.2	.5
14	.1	0	2.6	11	5.0	12	30	77	0	.4	.2	0
15	0	0	3.4	6.0	7.4	11	55	119	0	1.8	.2	0
16	.1	0	3.2	5.0	7.8	12	61	115	0	3.0	.7	0
17												
18	.6	0	4.4	*3.4	5.8	12	42	85	0	4.2	.5	.9
19	.1	.2	5.0	4.0	5.0	14	61	.82	0	1.8	.5	2.6
20	.1	1.3	5.0	5.0	4.8	15	39	100	0	2.8	.1	21
21	.1	2.2	5.2	7.0	5.5	16	33	18	0	3.8	.1	14
22	0	1.7	4.6	9.2	5.2	19	48	1.2	1.6	4.0	.3	61
23												
24	0	1.8	4.2	10	5.7	21	44	0	18	3.6	16	6.1
25	0	1.2	4.6	7.2	8.2	21	56	1.2	24	4.0	10	5.2
26	0	2.3	5.0	9.2	12	18	77	0	23	3.4	1.2	5.2
27	0	2.5	5.0	11	16	18	58	0	23	14	186	3.4
28	0	1.4	6.8	10	13	18	39	0	21	5.9	109	4.0
29												
30	.7	2.0	4.4	10	27	20	32	0	18	2.2	6.6	4.0
31	.2	1.7	6.3	9.5	8.4	21	48	0	17	3.4	4.0	4.6
32	0	1.7	6.1	8.4	20	26	46	0	16	1.7	2.8	4.2
33	0	2.2	5.8	10	21	20	32	0	16	1.2	2.5	5.0
34	0	3.4	5.5	9.6	-	18	22	87	14	1.2	1.5	40
35	0	-	8.0	10	-	15	-	91	-	1.5	1.4	-
36												
Month					Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet			
October.....					5.1	0.7	0	0.16	10			
November.....					29.5	3.4	0	.98	59			
December.....					140.0	8.0	2.6	4.52	278			
Calendar year 1939.....					5,160.0	107	0	14.1	10,240			
January.....					252.7	12	3.4	8.15	501			
February.....					312.5	27	4.8	10.9	620			
March.....					509	22	11	16.4	1,010			
April.....					998.8	77	9.8	33.3	1,980			
May.....					1,399.4	119	0	45.1	2,780			
June.....					859.6	98	0	28.7	1,700			
July.....					65.1	14	0	2.10	129			
August.....					371.4	186	0	12.0	737			
September.....					186.5	61	0	6.22	370			
Water year 1939-40.....					5,129.6	186	0	14.0	10,170			

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Dec. 27 to Jan. 31.

La Plata River near Farmington, N. Mex.

Location.- Water-stage recorder and rock and concrete control, lat. 36°44'30", long. 108°14'45", in SW¼ sec. 7, T. 29 N., R. 13 W., 1,800 feet upstream from mouth and 2½ miles northwest of Farmington.

Records available.- March 1938 to September 1940.

Extremes.- Maximum discharge during year, 2,720 second-feet Aug. 24, from rating curve extended above 1,500 second-feet by logarithmic plotting; maximum gage height, 4.50 feet Aug. 24; no flow during many periods.
1938-40: Maximum gage height, 6.03 feet Sept. 11, 1939 (discharge not determined); no flow during many periods.

Remarks.- Records poor. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1	2	0	3	24	21	0	0	0	a7	0	1
2	1	2	0	3	27	17	0	0	0	0	0	0
3	1	1	0	3	13	16	0	0	0	0	0	0
4	1	1	0	3	11	15	0	0	0	0	0	0
5	1	1	0	3	13	19	0	0	0	0	0	0
6	1	1	0	3	13	19	0	0	0	0	0	0
7	1	1	0	4	11	19	0	0	0	0	29	0
8	2	1	0	4	11	19	0	0	0	0	4	0
9	2	1	1	b3	11	14	0	0	0	0	1	0
10	2	1	1	b3	10	11	0	0	0	0	0	0
11	2	1	1	b4	13	14	0	0	0	0	0	0
12	2	1	1	b3	13	8	0	0	0	0	0	0
13	2	1	1	*b15	15	5	0	0	0	0	0	0
14	2	1	1	b14	15	10	0	0	0	0	2	0
15	2	1	1	b12	17	6	0	0	0	0	1	0
16	2	1	1	b12	17	6	1	0	0	0	0	0
17	2	0	1	b13	14	5	0	0	0	a0	0	0
18	2	0	1	b13	12	4	0	0	0	0	0	118
19	2	0	1	b14	10	0	1	0	0	0	0	143
20	2	0	1	*b14	10	0	1	0	0	0	1	60
21	2	0	1	b15	10	0	1	0	0	0	3	52
22	2	0	1	b15	10	0	1	0	0	0	6	45
23	2	0	2	b16	9	0	0	1	0	0	6	6
24	2	0	2	b17	13	0	0	1	0	0	590	5
25	2	0	2	*b17	25	0	0	0	0	0	457	3
26	2	0	2	b18	32	0	0	0	0	0	78	3
27	2	0	2	b18	54	0	0	0	0	5	7	2
28	2	0	2	b19	25	0	0	0	0	0	3	9
29	2	0	2	19	20	0	0	1	0	0	1	8
30	2	0	2	20	-	0	0	1	0	0	1	94
31	2	-	2	25	-	0	-	0	-	0	1	-
Month					Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet			
October.....					55	2	1	1.8	109			
November.....					18	2	0	.6	36			
December.....					32	2	0	1.0	63			
Calendar year 1939.....					2,783	250	0	7.6	5,520			
January.....					345	25	3	11.1	684			
February.....					478	54	9	16.5	948			
March.....					228	21	0	7.4	452			
April.....					5	1	0	.2	9.9			
May.....					4	1	0	.1	7.9			
June.....					3	3	0	.1	6.0			
July.....					12	7	0	.4	24			
August.....					1,191	590	0	38.4	2,360			
September.....					549	143	0	18.3	1,090			
Water year 1939-40.....					2,920	590	0	8.0	5,790			

*Winter discharge measurement made on this day.

a Fragmentary or no gage-height record; discharge computed on basis of weather records and records for station at State line.

b Stage-discharge relation affected by ice.

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

SAN JUAN RIVER BASIN

Cherry Creek near Red Mesa, Colo.

Location.- Water-stage recorder, lat. 37°07', long. 108°12', in sec. 7, T. 33 N., R. 12 W., near mouth, 2 miles northwest of Red Mesa.

Drainage area.- 66 square miles.

Records available.- October 1933 to September 1940 in reports of Geological Survey.
March 1928 to September 1940 in reports of State engineer.

Average discharge.- 12 years, 8.43 second-feet.

Extremes.- Maximum discharge during year, 1,480 second-feet Aug. 25 (gage height, 5.90 feet), from rating curve extended above 800 second-feet on basis of slope-area measurement; no flow Oct. 1 to Nov. 19, June 4 to Aug. 23, Aug. 28 to Sept. 18, Sept. 22-28.

1928-40: Maximum discharge, that of Aug. 25, 1940; no flow at times during 1931, 1933-36, 1938-40.

Remarks.- Records poor. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0				2.0	7.8	22	0.9		0	0
2		0				2.0	8.4	22	.5		0	0
3		0				2.0	7.4	22			0	0
4		0				2.0	9.7	24	0.5		0	0
5		0				2.0	14	26	0		0	0
6		0				2.5	12	25	0		0	0
7		0				2.5	14	24	0		0	0
8		0				2.5	13	22	0		0	0
9		0				2.5	14	16	0		0	0
10		0				2.5	15	16	0		0	0
11		0				3.0	12	14	0		0	0
12		0				3.0	13	12	0		0	0
13		0				*3.2	13	9.4	0		0	0
14		0				2.8	18	7.8	0		0	0
15		0	(*)			2.4	25	7.8	0		0	0
16		0	0.8	0.8	1.0	2.2	26	7.8	0		0	0
17		0				4.2	23	8.7	0		0	0
18		0				5.0	20	5.8	0		0	0
19		0				7.4	19	5.0	0		0	1.6
20		.2				12	24	4.2	0		0	4.5
21		.5				10	29	3.8	0		0	.5
22		.5				9.7	32	4.5	0		0	0
23		.5				9.4	34	3.8	0		0	0
24		*.5				9.0	34	2.8	0		5.6	0
25		.5				9.0	30	1.7	0		80	0
26		.5				9.4	27	1.6	0		2.0	0
27		.5				10	26	1.4	0		.6	0
28		.5				10	25	1.2	0		0	0
29		.5				9.7	25	1.1	0		0	.2
30		.5			-	7.4	24	1.0	0		0	3.2
31		-			-	7.1	-	1.0	-		0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	0	0	0	0	0
November.....	5.2	.5	0	.17	10
December.....	24.8	-	-	.8	49
Calendar year 1939.....	1,237.9	58	0	3.39	2,450
January.....	24.8	-	-	.8	49
February.....	29.0	-	-	1.0	58
March.....	168.4	12	2.0	5.43	334
April.....	504.3	34	7.4	19.8	1,180
May.....	325.4	26	1.0	10.5	645
June.....	1.9	.9	0	.06	3.8
July.....	0	0	0	0	0
August.....	88.2	80	0	2.85	175
September.....	10.0	4.5	0	.33	20
Water year 1939-40.....	1,272.0	80	0	3.48	2,520

*Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 20 to Mar. 13.

West Mancos River near Mancos, Colo.

Location.- Water-stage recorder, lat. 37°22'30", long. 108°15'20", 1r sec. 14, T. 36 N., R. 13 W., 1½ miles upstream from confluence with Middle Mancos River and 3½ miles northeast of Mancos.

Drainage area.- 42.1 square miles.

Records available.- September 1910 to December 1911, April 1938 to September 1940.

Extremes.- Maximum discharge during year, 247 second-feet May 17 (gage height, 2.49 feet); minimum daily, 2.9 second-feet Dec. 15, but probably less during period of no record.

1910-11, 1938-40: Maximum discharge, 380 second-feet June 29, 1938 (gage height, 2.93 feet), from rating curve extended above 220 second-feet; minimum daily, 2.5 second-feet Aug. 20, 1939, but probably less during period of ice effect.

Remarks.- Records good. No diversions above station.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	5.6	5.2			-	17	78	153	29	7.6	7.4
2	9.3	5.6	5.6			-	16	99	146	25	7.2	9.3
3	8.8	5.6	5.2			-	15	117	133	23	6.0	8.5
4	8.3	5.2	5.4			-	18	142	131	20	5.2	8.1
5	8.1	5.2	5.2			-	24	142	117	20	4.9	7.4
6	7.4	5.2	4.1			-	24	140	113	18	5.2	6.9
7	7.4	5.2	4.5			-	21	158	105	17	6.7	6.5
8	8.1	4.9	4.5			-	19	144	101	16	6.0	5.9
9	8.3	5.4	3.9			-	19	142	93	16	5.4	5.6
10	7.6	5.2	3.9			-	20	142	83	15	4.9	5.8
11	7.4	4.7	4.3			-	21	137	84	14	5.8	5.6
12	7.2	4.7	3.7			-	26	137	85	13	5.6	5.5
13	6.9	4.7	4.1			-	37	137	90	12	5.2	6.9
14	6.5	4.7	4.1			-	56	165	91	12	4.7	6.9
15	6.5	4.5	2.9			-	68	170	84	12	4.3	6.5
16	6.5	4.5	-			7.6	57	175	74	12	4.3	6.0
17	6.7	4.5	-			7.4	45	208	70	17	4.1	6.3
18	6.3	4.5	-			8.1	47	182	66	15	4.3	5.4
19	6.3	4.7	-			9.0	76	142	62	13	4.3	6.8
20	6.3	4.5	-			10	111	122	59	12	5.2	5.4
21	6.3	4.5	-			12	126	109	54	11	6.3	3.4
22	5.9	4.1	-			20	124	111	51	10	10	3.7
23	5.6	4.1	-			19	126	105	47	11	10	3.3
24	5.6	4.1	-			20	126	111	42	11	18	2.6
25	6.0	4.1	-			23	120	111	38	10	25	2.0
26	8.1	3.7	-			26	128	126	35	8.8	26	1.7
27	6.3	4.1	-			26	120	144	34	12	16	1.7
28	5.6	4.1	-			24	91	144	29	12	12	1.5
29	5.4	4.3	-			18	81	135	28	11	9.9	2.0
30	5.4	4.5	-			17	70	140	33	9.3	8.3	3.3
31	5.8	-	-			19	-	149	-	8.5	7.6	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						215.8	10	5.4	6.96	428		
November.....						140.7	5.6	3.7	4.69	279		
December 1-15.....						66.6	5.6	2.9	4.44	132		
Calendar year						-	-	-	-	-		
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March 16-31.....						266.1	26	7.4	16.6	528		
April.....						1,849	128	15	61.6	3,670		
May.....						4,264	208	78	138	8,460		
June.....						2,334	153	28	77.8	4,630		
July.....						444.6	28	5.5	14.3	882		
August.....						256.0	26	4.1	8.26	508		
September.....						543.1	68	5.6	18.1	1,080		
Water year						-	-	-	-	-		

Mancos River near Towaoc, Colo.

Location.— Water-stage recorder, lat. 37°02', long. 108°45', in NW¼ sec. 18, T. 32 N., R. 17 W., at crossing of U. S. Highway 84, 12 miles south of Towaoc. Datum of gage is 5,051.17 feet above mean sea level (unadjusted). Prior to Mar. 15, 1940, water-stage recorder 2½ miles downstream.

Drainage area.— 550 square miles; prior to Mar. 15, 1940, 558 square miles.

Records available.— October 1933 to September 1940 in reports of Geological Survey. February 1921 to September 1940 in reports of State engineer.

Average discharge.— 19 years, 54.3 second-feet.

Extremes.— Maximum discharge during year, 4,600 second-feet Sept. 22 (gage height, 8.65 feet, from floodmarks), by slope-area method; no flow Oct. 3-5, June 25 to July 26, July 31 to Aug. 6, Aug. 13-20, Sept. 10-17.

1921-40: Maximum discharge, 4,900 second-feet Aug. 26, 1934 (gage height, 6.55 feet, site and datum then in use); no flow at times.

Remarks.— Records fair except those for periods of no gage-height record, which are poor. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.0	a3.5	3.4	3.0	6.0	41	27	a45	58	0	0	4.6
2	.6	3.8	3.2	4.6	7.2	36	30	a40	58	0	0	4.0
3	0	3.8	3.0	6.4	6.4	33	30	a48	58	0	0	4.6
4	0	3.8	3.2	5.5	5.9	33	36	a90	46	0	0	6.0
5	0	3.8	3.2	4.9	5.4	32	40	a160	39	0	0	8.2
6	.6	4.0	3.2	4.0	4.5	39	45	a120	28	0	0	6.0
7	1.6	4.0	3.2	2.0	5.1	30	46	a130	23	0	2.4	4.0
8	1.6	4.3	3.2	3.0	4.8	26	40	a140	21	0	35	1.0
9	3.0	4.0	3.2	3.6	4.6	38	38	145	17	0	13	.1
10	4.9	4.0	3.0	4.6	5.5	49	36	145	15	0	4.4	0
11	3.2	4.6	3.2	4.0	6.1	45	38	127	14	0	2.4	0
12	2.2	4.9	3.6	5.5	6.4	36	40	122	12	0	.1	0
13	1.6	4.9	3.0	6.1	6.1	22	54	118	10	0	0	0
14	2.0	5.2	3.0	3.6	5.8	14	78	110	9.9	0	0	0
15	2.0	4.6	2.4	2.6	7.0	16	114	117	8.2	0	0	0
16	2.0	4.0	2.6	*4.2	7.0	19	118	118	7.1	0	0	0
17	2.0	4.0	3.6	4.2	5.5	22	90	118	5.4	0	0	0
18	1.0	3.4	4.0	4.5	3.4	24	67	178	5.0	0	0	35
19	1.0	3.2	4.6	4.2	5.5	22	78	208	3.6	0	0	96
20	1.2	3.4	2.6	4.3	5.5	23	125	125	2.4	0	0	73
21	1.2	3.6	1.6	5.0	7.0	23	168	90	2.4	0	18	46
22	1.2	3.6	1.4	4.0	7.0	24	150	84	1.2	0	16	857
23	a1.2	3.4	2.4	5.0	7.0	28	a170	72	.1	0	11	53
24	a1.2	3.4	2.4	5.4	7.0	31	a145	58	.1	0	5.0	35
25	a1.5	3.4	4.0	4.9	9.5	32	a100	58	0	0	114	26
26	a1.5	3.4	3.6	4.8	12	34	a75	54	0	0	32	25
27	a1.8	3.6	2.2	4.7	20	32	a80	60	0	174	24	30
28	a2.0	3.6	3.0	4.4	25	36	a85	64	0	5.8	13	22
29	a2.5	4.0	2.6	5.1	31	35	a54	60	0	2.0	11	28
30	a3.0	3.6	3.0	5.2	-	30	a52	56	0	.1	8.2	56
31	a3.5	-	3.4	5.5	-	26	-	53	-	0	6.4	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						51.5	4.9	0	1.66	102		
November.....						116.8	5.2	3.2	3.89	232		
December.....						94.0	4.6	1.4	3.03	186		
Calendar year 1939.....						6,675.2	242	0	18.3	13,230		
January.....						138.8	6.4	2.0	4.48	275		
February.....						239.2	31	3.4	8.25	474		
March.....						931	49	14	30.0	1,850		
April.....						2,262	170	27	75.4	4,490		
May.....						3,113	208	40	100	6,170		
June.....						444.4	58	0	14.8	881		
July.....						164.9	174	0	5.96	367		
August.....						315.9	114	0	10.2	627		
September.....						1,420.5	857	0	47.4	2,820		
Water year 1939-40.....						9,312.0	857	0	25.4	18,470		

*Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of records for La Plata River at Colorado-New Mexico State line.

Note.— Stage-discharge relation affected by ice Jan. 16 to Feb. 8.

Middle Mancos River near Mancos, Colo.

Location.- Water-stage recorder, lat. $37^{\circ}22'15''$, long. $106^{\circ}13'35''$, in SE $\frac{1}{4}$ sec. 13, T. 36 N., R. 13 W., 500 feet upstream from East Mancos River and 4 miles northeast of Mancos.

Drainage area.- 13.7 square miles.

Records available.- March 1938 to September 1940.

Extremes.- Maximum discharge during year, 47 second-feet May 4 (gage height, 2.12 feet); no flow Nov. 21, and probably at times during period of ice effect.
1938-40: Maximum discharge, 131 second-feet May 17, 1938 (gage height, 2.64 feet), from rating curve extended above 70 second-feet; no flow Aug. 24-27, Sept. 3-5, Nov. 21, 1939, and at times during period of no record.

Remarks.- Records fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.2	0.1	0.2			0.1	2.2	19	9.6	2.3	0.8	0.8
2	.2	.1	.2			.1	2.2	21	8.7	2.3	.7	.8
3	.2	.1	.2			.1	2.3	27	7.9	2.0	.5	.8
4	.2	.1	.1			.1	2.3	36	6.5	1.9	.5	.7
5	.2	.1	.1			.1	3.5	41	5.4	1.9	.5	.6
6	.2	.1	.1			.2	3.5	36	5.2	2.3	.6	.6
7	.2	.1	.1			.2	3.2	37	4.6	1.9	1.0	.5
8	.3	.1	.1			.2	3.3	29	4.0	1.8	.8	.4
9	.3	.1	.1			.2	3.7	32	3.5	1.4	.7	.4
10	.3	.3	.1			.2	4.0	27	2.8	1.3	.6	.3
11	.4	.2	.1			.2	3.8	24	3.8	1.1	.6	.5
12	.3	.2	.1			.2	6.0	28	6.5	1.1	.6	.3
13	.3	.2	.1			.2	9.3	28	6.7	1.1	.5	.4
14	.3	.2	.1			.2	15	31	5.8	1.0	.5	.3
15	.3	.2	.1			.2	17	29	4.4	1.0	.4	.3
16	.2	.1	.1	0.1	0.1	.3	13	25	4.4	1.0	.5	.3
17	.1	.1	.1			.3	11	30	6.7	2.3	.5	.3
18	.1	.1	.1			.3	12	28	6.5	1.9	.5	.6
19	.1	.1	.1			.4	19	19	6.5	1.5	.5	1.6
20	.1	.1	.1			.4	27	14	6.2	1.3	.4	1.0
21	.1	0	.1			.5	31	11	5.6	1.1	.4	.4
22	.1	.1	.1			1.0	32	11	5.2	1.0	.5	.5
23	.1	.1	.1			1.5	34	10	5.0	.9	.5	.3
24	.1	.1	.1			2.0	34	9.6	4.4	1.0	1.4	.3
25	.2	.1	.1			2.6	28	8.7	3.8	1.0	1.5	.3
26	.2	.1	.1			2.6	31	8.7	3.5	.6	2.2	.2
27	.2	.1	.1			2.6	31	10	3.2	1.0	1.4	.2
28	.1	.1	.1			2.5	25	11	2.6	.9	1.1	.2
29	.1	.2	.1			1.9	20	11	2.5	.7	1.0	.3
30	.1	.2	.1		-	1.8	17	10	2.5	.7	.8	.8
31	.1	-	.1		-	2.2	-	9.8	-	.7	.8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	5.9	0.4	0.1	0.19	12
November.....	3.8	.3	0	.13	7.5
December.....	3.4	.2	.1	.11	6.7
Calendar year	-	-	-	-	-
January.....	3.1	-	-	.10	6.1
February.....	2.9	-	-	.10	5.8
March.....	25.4	2.6	.1	.82	50
April.....	446.3	34	2.2	14.9	885
May.....	671.8	41	8.7	21.7	1,330
June.....	154.0	9.6	2.5	5.13	305
July.....	42.0	2.3	.6	1.35	85
August.....	24.0	2.2	.4	.77	48
September.....	14.8	1.6	.2	.49	29
Water year 1939-40	1,397.4	41	0	3.82	2,770

Note.- Stage-discharge relation affected by ice Dec. 15 to Mar. 13.

East Mancos River near Mancos, Colo.

Location.- Water-stage recorder, lat. 37°22'10", long. 108°13'35", in NE¼ sec. 24, T. 36 N., R. 13 W., 800 feet upstream from mouth and 4 miles northeast of Mancos.

Drainage area.- 11.1 square miles.

Records available.- March 1938 to September 1940.

Extremes.- Maximum discharge during year, 90 second-feet May 15 (gage height, 1.23 feet); minimum daily, 0.2 second-foot Sept. 6.

1938-40: Maximum discharge, 145 second-feet Apr. 28, 1938 (gage height, 1.46 feet); no flow Aug. 17-27, 1939.

Remarks.- Records good above 5 second-feet, and fair below except those for period of ice effect, which are poor. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.0	1.6	al.1			0.8	6.6	17	31	4.8	0.9	0.8
2	1.1	1.6	al.1			.8	5.4	25	27	4.2	1.0	.7
3	1.1	1.5	al.1			.8	5.4	30	25	3.8	.8	.6
4	al.1	1.5	1.1			1.0	4.2	42	22	3.6	.6	.6
5	al.1	1.5	1.4			1.0	4.5	44	17	3.4	.6	.4
6	al.1	1.5	1.1			1.0	4.2	45	15	2.6	1.0	.2
7	al.1	1.3	1.1			1.0	4.8	47	14	2.4	1.8	.4
8	al.1	1.2	al.1			1.0	5.7	41	13	1.9	1.1	.4
9	1.1	1.4	al.1			1.5	5.7	38	12	1.8	.9	.4
10	1.0	al.3	al.0			1.5	6.3	36	9.5	1.7	.8	.4
11	.9	al.2	1.0			1.5	6.6	38	10	1.6	1.2	.4
12	.7	al.1	.8			2.0	9.5	34	11	1.6	1.0	.4
13	.7	1.1	.6			2.0	15	38	10	1.4	.8	.9
14	a.8	1.1	.6			2.2	27	59	11	1.1	.6	.5
15	a.9	.9	.5			2.4	35	70	8.9	1.4	.7	.4
16	1.1	.8	.5	0.5	0.7	2.2	25	64	6.9	1.1	.6	.4
17	1.1	a.9	.5			2.8	17	68	6.6	1.6	.6	.4
18	1.1	a.9	.5			3.0	16	50	7.2	2.0	.5	10
19	1.1	a.9	.5			3.8	29	32	10	1.6	.5	17
20	1.1	.9	.5			5.4	40	25	9.5	1.2	.8	11
21	1.0	.9	.5			5.7	45	23	8.4	1.2	.6	6.0
22	1.0	1.1	.5			9.5	45	25	8.9	1.1	.8	6.3
23	1.1	1.3	.5			12	45	24	7.8	1.5	.5	4.2
24	1.1	al.2	.5			14	33	29	7.2	1.6	1.5	3.4
25	1.3	al.1	.5			17	26	29	6.3	1.0	3.4	2.4
26	1.9	al.1	.5			16	26	35	6.3	.7	5.1	1.9
27	1.5	1.1	.5			14	25	37	5.7	1.8	3.6	1.7
28	1.3	1.1	.5			9.5	22	34	5.1	2.1	2.2	1.5
29	1.4	al.0	.5			7.2	20	29	5.4	1.7	1.4	2.4
30	1.3	al.0	.5		-	6.3	17	27	6.0	1.5	1.0	4.5
31	1.5	-	.5		-	6.9	-	31	-	1.4	.7	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						34.7	1.9	0.7	1.12	69		
November.....						35.1	1.6	.8	1.17	70		
December.....						22.7	1.4	.5	.73	45		
Calendar year						-	-	-	-	-		
January.....						15.5	-	-	.5	31		
February.....						20.3	-	-	.7	40		
March.....						155.8	17	.8	5.03	309		
April.....						576.9	45	4.2	19.2	1,140		
May.....						1,164	70	17	37.5	2,310		
June.....						341.7	31	5.1	11.4	678		
July.....						60.3	4.8	.7	1.95	120		
August.....						37.6	5.1	.5	1.21	75		
September.....						80.6	17	.2	2.69	160		
Water year 1939-40.....						2,545.2	70	.2	6.95	5,050		

a No gage-height record; discharge computed on basis of weather records.

Note.- Stage-discharge relation affected by ice Dec. 14 to Mar. 15.

Paria River at Lees Ferry, Ariz.

Location.- Water-stage recorder, lat. 36°52'15", long. 111°36'30", in NW¼ sec. 13, T. 40 N., R. 7 E., half a mile upstream from mouth and 1 mile northwest of Lees Ferry. Datum of gage is 3,123.4 feet above mean sea level (general adjustment of 1929).

Drainage area.- 1,570 square miles (revised).

Records available.- November 1923 to September 1940.

Average discharge.- 17 years, 36.3 second-feet.

Extremes.- Maximum discharge during year, 14,000 second-feet Sept. 6 (gage height, 16.0 feet), from rating curve extended above 1,100 second-feet on basis of slope-area determinations at gage heights 11.2 feet and 12.4 feet; minimum, 2 second-feet July 25.

1923-40: Maximum discharge, 16,100 second-feet Oct. 5, 1925 (gage height, 17.5 feet), by float-area method; no flow during several periods in December and January of many years.

Remarks.- Records good except those for periods of incomplete gage-height record and those above 1,000 second-feet, which are fair. During the year '73 discharge measurements were made. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23	12	19	35	28	43	7	4	3	4	3	4
2	17	13	19	30	185	27	6	4	3	3	3	5
3	15	13	19	29	110	21	14	4	3	3	3	14
4	19	12	20	26	69	20	10	3	3	3	3	34
5	30	13	19	27	59	17	7	3	3	3	4	18
6	21	13	20	36	33	15	7	3	3	3	4	al, 100
7	18	13	20	21	27	13	6	3	3	3	4	al, 600
8	17	13	20	14	35	14	6	3	3	3	4	94
9	17	18	20	19	21	14	5	3	3	3	4	29
10	18	22	20	36	17	13	5	3	3	3	4	17
11	17	19	20	50	21	13	5	3	3	3	4	17
12	15	15	19	199	21	12	4	3	3	3	4	38
13	14	17	18	323	16	11	4	3	3	3	4	168
14	13	18	16	32	15	11	4	3	3	3	4	875
15	14	17	18	12	19	12	4	3	3	3	4	127
16	13	17	19	8	25	13	4	4	4	3	5	63
17	18	16	21	10	18	12	5	4	3	4	5	293
18	19	16	20	15	18	12	5	12	3	4	5	2,300
19	19	15	19	16	20	12	7	11	3	3	5	112
20	18	14	18	15	17	12	6	7	3	3	5	36
21	17	14	17	15	18	11	5	5	3	4	5	25
22	16	15	18	16	19	10	4	4	3	4	54	27
23	17	16	19	14	22	10	5	4	3	3	45	21
24	15	16	15	16	24	8	6	4	3	3	796	66
25	14	18	20	16	22	7	5	3	3	3	142	50
26	13	19	21	27	27	7	4	3	3	3	45	20
27	13	18	9	35	186	8	5	3	3	3	21	22
28	12	21	6	29	82	8	5	3	3	5	15	14
29	12	42	6	27	51	9	5	3	3	4	9	13
30	12	28	6	25	-	10	4	3	5	3	6	12
31	13	-	26	26	-	8	-	3	-	3	5	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	509	30	12	16.4	1,010
November.....	513	42	12	17.1	1,020
December.....	547	26	6	17.6	1,080
Calendar year 1939.....	16,838	6,200	2	46.1	33,410
January.....	1,199	323	8	38.7	2,380
February.....	1,225	186	15	42.2	2,430
March.....	413	43	7	13.3	819
April.....	169	14	4	5.6	355
May.....	124	12	3	4.0	246
June.....	93	5	3	3.1	184
July.....	105	5	3	3.4	208
August.....	1,224	796	3	39.5	2,430
September.....	7,214	2,300	4	24.0	14,310
Water year 1939-40.....	13,355	2,300	3	36.4	26,450

Peak discharge.- Aug. 24 (8:30 a.m.) 5,130 sec.-ft.; Sept. 6 (11 p.m.) 14,000 sec.-ft.; Sept. 14 (1:30 a.m.) 5,800 sec.-ft.; Sept. 18 (4:30 a.m.) 7,800 sec.-ft.
 a Gage-height record incomplete; discharge computed from gage heights estimated on basis of record for preceding and following days and floodmarks.

Little Colorado River above Lyman Reservoir, near St. Johns, Ariz.

Location.- Water-stage recorder, lat. 34°20', long. 109°22', in NE¼SE¼ sec. 27, T. 11 N., R. 28 E., 1 mile downstream from Coyote Creek, 4½ miles upstream from Lyman Dam, and 13 miles south of St. Johns. During period Apr. 10-26, staff gage at same site and datum; Aug. 2 to Sept. 30, staff gage 1 mile upstream, 600 feet below mouth of Coyote Creek, at different datum.

Drainage area.- 747 square miles.

Records available.- April to September 1940.

Extremes.- Maximum discharge during period, 16,000 second-feet July 25, by slope-area method; minimum, about 0.5 second-foot July 16-24.

Remarks.- Records good prior to July 15 and poor thereafter. Flow regulated by several small reservoirs. Diversions above station for irrigation. Staff gages, used Apr. 10-26 and Aug. 2 to Sept. 30, read twice daily. Water-stage recorder destroyed by flood on July 25.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								3	3	8	7	80
2								2	2	6	6	40
3								3	2	5	a6	a30
4								2	2	5	a5	4
5								2	2	5	a5	3
6							a15	1	2	4	a4	7
7								1	2	3	a4	5
8								1	2	3	a3	5
9								3	3	3	3	4
10							13	3	2	3	2	4
11							18	5	2	3	2	4
12							13	5	2	2	4	6
13							19	4	2	1	5	4
14							a20	4	2	.6	70	4
15							22	3	1	.6	130	4
16							14	3	1	a.5	34	3
17							7	7	1	a.5	a5	4
18							5	8	2	a.5	a5	6
19							2	5	2	a.5	a5	6
20							2	4	2	a.5	110	6
21							a2	4	2	a.5	a10	8
22							2	3	59	a.5	50	7
23							2	8	14	a.5	44	8
24							1	9	10	a.5	41	8
25							2	7	5	a1,600	49	8
26							2	6	125	a1,300	a60	8
27							3	3	20	a100	a15	10
28							2	3	8	a40	a10	13
29							2	4	19	a20	a5	15
30							3	3	28	a15	a5	10
31							-	3	-	9	a5	-
Month							Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet	
October.....												
November.....												
December.....												
Calendar year												
January.....							-	-	-	-	-	
February.....							-	-	-	-	-	
March.....							-	-	-	-	-	
April.....							292	22	1	9.7	579	
May.....							120	9	1	3.9	238	
June.....							328	125	1	10.9	651	
July.....							3,140.7	1,600	.5	101	6,230	
August.....							709	130	2	22.9	1,410	
September.....							324	80	3	10.8	643	
The period							-	-	-	-	9,750	

a Doubtful or no gage-height record; discharge Apr. 1-9 computed on basis of weather records and record for following days; Apr. 14, 21 interpolated; July 16-24 computed on basis of preceding trend of flow, weather records, and reservoir records; remaining periods computed on basis of reservoir records and record for preceding and following days.

Lyman Reservoir near St. Johns, Ariz.

Location.- Water-stage recorder, lat. 34°22', long. 109°23', in sec. 9, T. 11 N., R. 28 E., in control tower of Lyman Dam on Little Colorado River, 9¼ miles south of St. Johns.

Drainage area.- 790 square miles.

Records available.- May to September 1940.

Extremes.- Maximum contents during period, 5,770 acre-feet July 28 (gage height, 32.24 feet); minimum, 29 acre-feet July 25 (gage height, 20.10 feet).

Remarks.- Reservoir is formed by an earth and rock-fill dam, rubble faced; dam completed and Storage began in 1920; original dam washed out Apr. 14, 1915. Capacity, 21,900 acre-feet between gage height 20.0 feet (bottom of Lyman canal) and 50.0 feet (average elevation of spillway crest). Contents between 2.0 feet, sill of outlet gates, and 20.0 feet, 4,500 acre-feet (based on survey in 1920), not available for release to Lyman canal but can be released to the river channel. Water is used for irrigation in the vicinity of St. Johns. Figures given herein represent contents above gage height 20.0 feet.

Capacity table (gage height, in feet, and contents, in acre-feet)

(Prepared by Field, Fellows, and Hinderlider, firm of consulting engineers, from surveys of the firm)

20.0	0	24.5	1,630	44.0	15,310
20.5	153	27.5	3,030	50.0	21,900
21.0	315	31.5	5,285		
22.0	658	37.0	9,170		

Contents, in acre-feet, at 12 p.m., May to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								-	481	542	5,620	4,760
2								-	456	515	5,540	4,800
3								-	396	487	5,430	4,890
4								-	382	453	5,340	4,880
5								-	368	423	5,260	4,880
6								-	355	392	5,180	4,880
7								-	341	368	5,080	4,830
8								-	325	338	5,060	4,770
9								-	312	312	4,890	4,700
10								-	308	282	4,780	4,650
11								-	292	256	4,650	4,610
12								-	282	243	4,550	4,560
13								-	276	223	4,440	4,500
14								-	269	211	4,480	4,460
15								-	252	188	4,640	4,410
16								-	236	185	4,580	4,350
17								-	217	179	4,480	4,360
18								-	201	172	4,400	4,430
19								-	185	153	4,310	4,400
20								1,070	169	134	4,400	4,370
21								1,000	156	119	4,390	4,350
22								950	305	106	4,480	4,320
23								901	348	88	4,510	4,300
24								852	348	54	4,550	4,280
25								804	328	3,180	4,620	4,250
26								752	804	5,560	4,720	4,200
27								705	590	5,740	4,720	4,170
28								654	552	5,770	4,710	4,150
29								604	570	5,750	4,690	4,130
30								566	562	5,740	4,670	4,110
31								528	-	5,670	4,660	-

Monthly gage height and contents, May to September 1940

Date	Gage height (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
May 31.....	21.63	528	-
June 30.....	21.73	562	+34
July 31.....	32.09	5,670	+5,108
Aug. 31.....	30.45	4,660	-1,010
Sept. 30.....	29.52	4,110	-550

Little Colorado River at St. Johns, Ariz.

Location.— Water-stage recorder, lat. 34°30', long. 109°22', in sec. 27, T. 13 N., R. 28 E., at St. Johns.

Drainage area.— 940 square miles (revised).

Records available.— April 1906 to December 1909, May 1929 to October 1933, September 1935 to April 1940 (discontinued).

Extremes.— Maximum discharge during period, 73 second-feet Oct. 23; maximum gage height, 1.80 feet (ice jam) Dec. 29; no flow on many days.
1929-40: Maximum discharge, 2,100 second-feet Sept. 2, 1936 (gage height, 4.19 feet), from rating curve extended above 350 second-feet by velocity-area method; no flow part or all of many days in each year.

Remarks.— Records good except those for periods of ice effect or no gage-height record, which are poor. Diversions above station for irrigation. Regulation by many reservoirs (combined capacity about 35,000 acre-feet) above station, largest of which is Lyman Reservoir (see p. 193).

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.2	3	7	8	0	6					
2	0	.2	3	7	8	a.5	6					
3	0	.4	4	7	8	a.7	6					
4	0	1	5	7	*8	a.7	6					
5	0	2	*5	*8	8	a.7	6					
6	0	2	5	8	8	a.7	6					
7	0	2	4	b7	7	a.7	6					
8	0	2	5	7	b5	.6	7					
9	0	2	6	7	b4	.5	7					
10	0	2	6	7	4	.5	7					
11	0	2	6	7	4	1	-					
12	0	2	6	7	4	1	-					
13	0	2	6	b7	b4	.4	-					
14	0	2	6	b7	b4	.3	-					
15	0	2	6	b6	b4	.3	-					
16	0	2	6	b6	b4	.1	-					
17	0	2	6	b6	b4	0	-					
18	0	2	6	b7	b4	0	-					
19	0	2	6	*b7	b4	0	-					
20	0	2	*6	8	*b2	0	-					
21	0	b2	b6	8	b1	0	-					
22	0	b2	b6	8	.3	0	-					
23	5	b3	b6	b8	0	0	-					
24	.3	3	b6	b8	0	0	-					
25	.1	3	b6	8	0	.4	-					
26	.1	3	b6	8	0	2	-					
27	.2	3	b6	8	0	1	-					
28	.2	3	b6	8	0	.8	-					
29	.2	4	b6	8	0	.5	-					
30	.2	4	b6	8	-	2	-					
31	.2	-	b7	8	-	6	-					
Month				Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet				
October.....				6.5	5	0	C.21	13				
November.....				63.8	4	.2	2.13	127				
December.....				173	7	3	5.6	343				
Calendar year 1939.....				1,013.1	74	0	2.78	2,010				
January.....				228	8	6	7.4	452				
February.....				107.3	8	0	3.70	213				
March.....				21.4	6	0	.69	42				
April 1-10.....				63	7	6	6.3	125				
May.....				-	-	-	-	-				
June.....				-	-	-	-	-				
July.....				-	-	-	-	-				
August.....				-	-	-	-	-				
September.....				-	-	-	-	-				
The period.....				-	-	-	-	1,320				

*Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of one discharge measurement and weather records.

b Stage-discharge relation affected by ice.

Little Colorado River above Zuni River, near Hunt, Ariz.

Location.- Water-stage recorder, lat. $34^{\circ}38'$, long. $104^{\circ}40'$, in SW $\frac{1}{4}$ sec. 2, T. 14 N., R. 25 E., 500 feet upstream from Zuni River and 3 miles northwest of Hunt.

Drainage area.- 3,680 square miles, including 830 square miles in closed basin surrounding Quemado, N. Mex.

Records available.- March to September 1940.

Extremes.- Maximum discharge during period, 577 second-feet July 26 (gage height, 3.46 feet); no flow during extended periods.

Remarks.- Records good. Diversions above station for irrigation. Some regulation by numerous reservoirs above station, the largest of which is Lyman Reservoir (see p. 193).

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							0			0	0	55
2							0			0	0	40
3							0			0	0	31
4							0			0	0	25
5							0			0	0	17
6							0			0	0	15
7							0			0	3	85
8							0			0	.2	117
9							0			0	0	88
10							0			0	0	65
11							0			0	0	51
12							0			0	0	40
13							0			0	0	46
14							0			0	0	41
15							0			0	18	40
16							0			.1	7	31
17							0			0	6	29
18							.2			0	15	82
19							.1			0	9	58
20							.1			0	18	63
21							0			0	97	66
22							0			0	22	65
23							0			0	17	60
24							0			0	85	82
25							0			20	136	50
26							.1			243	214	38
27							0			8	256	30
28							0			.9	221	32
29							0			.2	153	45
30							0			.1	105	28
31							-			0	73	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....					
November.....					
December.....					
Calendar year					
January.....	-	-	-	-	-
February.....	-	-	-	-	-
March.....	0	0	0	0	0
April.....	.5	.2	0	.02	1.0
May.....	0	0	0	0	0
June.....	0	0	0	0	0
July.....	272.3	243	0	8.78	540
August.....	1,455.2	256	0	46.9	2,890
September.....	1,515	117	15	50.5	3,000
The period.....	-	-	-	-	6,430

Peak discharge.- July 26 (6 a.m.) 577 sec.-ft.; Aug. 21 (4 a.m.) 186 sec.-ft.; Aug. 27 (2 p.m.) 298 sec.-ft.

LITTLE COLORADO RIVER BASIN

Little Colorado River near Hunt, Ariz.

Location.- Water-stage recorder, lat. $34^{\circ}39'$, long. $109^{\circ}42'$, in NW $\frac{1}{4}$ sec. 4, T. 14 N., R. 25 E., at bridge on U. S. Highway 260, 2 miles downstream from Zuni River and 5 miles northwest of Hunt. Staff gage at same site and datum Mar. 22 to Apr. 10, 1940.

Drainage area.- 6,280 square miles (revised), including 830 square miles in closed basin surrounding Quemado, N. Mex., and excluding 964 square miles in North Plains Basin, New Mex., a closed basin.

Records available.- May 1929 to October 1933 and March to September 1940.

Extremes.- Maximum discharge during year, 2,110 second-feet July 26 (gage height, 10.34 feet); no flow on several days.

1929-33, 1940: Maximum discharge, 8,000 second-feet July 28, 1929 (gage height, 19.0 feet, datum then in use); no flow at times in various years.

Remarks.- Records good except those during period of unstable control, July 25 to Aug. 26, which are fair. Diversions above station for irrigation. Some regulation by numerous reservoirs above station.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						-	0.2	0.6	0.1	38	2	54
2						-	.4	.6	.7		a1	41
3						-	.2	.4	.2	1	a.2	31
4						-	.2	.3	.2	.2	a.1	25
5						-	.1	.2	.1	.2	0	18
6						-	.2	.2	0	.2	0	393
7						-	.1	.2	0	.2	140	324
8						-	.1	.1	0	.2	130	145
9						-	.2	.1	0	.3	22	98
10						-	.2	.1	0	.7	6	68
11						-	.2	.1	0	.8	6	55
12						-	.2	.1	0	.7	6	67
13						-	.1	0	0	.9	5	362
14						-	.2	0	0	.6	5	172
15						-	.2	.1	.9	.3	289	66
16						-	.2	.1	.3	9	70	39
17						-	.5	.1	0	.5	11	33
18						-	.8	.1	0	.2	14	268
19						-	.4	.1	0	.3	9	178
20						-	.2	0	.1	.3	70	83
21						-	.2	.1	.1	.1	140	75
22						0.3	.2	.1	.1	0	240	75
23						.3	5	.1	.1	.1	60	62
24						.3	4	.1	.1	.1	100	89
25						.5	1	.1	.3	35	220	55
26						.3	1	.1	.3	850	690	42
27						.2	.9	.1	.3	130	302	35
28						.3	.9	.2	.3	7	245	46
29						.7	.9	.1	.4	280	156	108
30						.3	.8	.1	.6	45	107	82
31						.3	-	.1	-	5	73	-
Month	Second-foot-days											
October.....												
November.....												
December.....												
Calendar year												
January.....	-	-	-	-	-	-	-	-	-	-	-	-
February.....	-	-	-	-	-	-	-	-	-	-	-	-
March 22-31.....	3.3	0.7	0.2	0.33	6.5							
April.....	19.9	5	.1	.66	39							
May.....	4.8	.6	0	.15	9.5							
June.....	4.7	.9	0	.16	9.3							
July.....	1,413.9	850	0	45.6	2,800							
August.....	3,121.3	690	0	101	6,190							
September.....	3,189	393	18	106	6,330							
The period.....	-	0	-	-	15,380							

Peak discharge.- July 26 (2:20 p.m.) 2,110 sec.-ft.; Aug. 26 (7 a.m.) 1,120 sec.-ft.; Sept. 6 (2:40 p.m.) 922 sec.-ft.

a No gage-height record; discharge computed on basis of engineer's field observations of flow Aug. 3 and 5.

Little Colorado River near Woodruff, Ariz.

Location.- Water-stage recorder and concrete control, lat. 34°48', long. 110°03', in sec. 7, T. 16 N., R. 22 E., 1 1/2 miles northwest of Woodruff and 4 miles downstream from Silver Creek. Datum of gage is 5,123.5 feet above mean sea level (from river profile map, based on general adjustment of 1929).

Drainage area.- 8,100 square miles (revised).

Records available.- March 1905 to December 1908, December 1915 to December 1919 (fragmentary), April 1929 to December 1933, September 1935 to September 1940.

Extremes.- Maximum discharge during year, 13,000 second-feet July 26 (gage height, 13.45 feet), by slope-area method; no flow part of each month from March to July.

1929-40: Maximum discharge, that of July 26, 1940; no flow or some days in spring or summer of each year.

Maximum discharge recorded, 25,000 second-feet Dec. 5, 1919 (gage height, 12.0 feet, datum then in use), from rating curve extended above 2,000 second-feet; maximum gage height recorded, 12.7 feet, datum then in use, Jan. 19, 1916 (discharge not determined).

Remarks.- Records good. Diversions above station for irrigation. Some regulation by reservoirs above station (combined capacity, about 73,000 acre-feet).

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2	8	29	b4	16	6	0.5	0.9	0	10	15	65
2	2	7	13	b4	118	7	.2	1	0	6	9	47
3	3	5	8	b6	*72	7	.1	.4	0	6	6	50
4	3	4	6	*6	26	6	.1	.3	0	2	5	39
5	4	3	6	8	16	6	0	0	0	.7	4	26
6	5	4	*6	8	13	6	0	0	0	0	4	52
7	5	5	6	20	12	6	0	0	0	0	4	536
8	3	5	5	25	12	6	c1	0	0	0	190	175
9	3	8	6	26	11	6	c1	0	0	0	65	121
10	3	13	5	32	10	6	c1	0	0	0	26	77
11	3	24	4	22	12	6	c.2	0	0	0	10	63
12	3	12	4	15	12	6	c5	.2	0	0	6	517
13	2	9	4	12	b10	5	c0	0	0	0	3	1,030
14	3	8	4	b6	10	5	c0	0	0	0	.9	411
15	2	5	4	b6	12	5	c1	0	0	0	1,060	121
16	2	6	4	b7	12	5	c.5	0	0	184	482	59
17	2	6	4	b7	9	6	c.3	0	0	349	56	43
18	2	6	4	b7	5	6	24	0	0	26	105	859
19	3	6	4	b7	*8	6	11	0	0	6	280	573
20	2	6	4	*b9	7	6	6	0	0	2	218	127
21	2	6	*b4	.11	8	5	5	0	0	.5	852	95
22	2	6	b4	b10	9	5	4	0	0	0	217	103
23	2	6	b4	b9	10	4	3	.2	0	0	243	203
24	3	6	4	b9	12	2	14	0	0	0	397	337
25	3	8	5	b13	12	2	4	.1	0	31	879	99
26	4	6	b5	12	12	.8	1	.1	0	5,270	1,110	62
27	5	4	b4	12	11	2	.5	0	13	682	367	80
28	7	3	b4	11	10	.8	.4	0	10	51	263	269
29	10	23	b4	10	8	.3	.4	0	7	186	181	328
30	8	15	b4	10	-	0	.6	0	60	299	127	209
31	5	-	b4	12	-	.4	-	0	8	38	86	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	108	10	2	3.5	214
November.....	236	24	3	7.9	468
December.....	176	29	4	5.7	349
Calendar year 1939.....	5,253.4	338	0	14.4	10,420
January.....	360	32	4	11.6	714
February.....	502	118	7	17.3	996
March.....	140.3	7	0	4.63	278
April.....	79.8	24	0	2.66	158
May.....	5.2	1	0	.10	6.3
June.....	90	60	0	3.0	173
July.....	7,381.2	5,270	0	238	14,640
August.....	7,290.9	1,110	.9	235	14,460
September.....	6,876	1,030	26	229	13,640
Water year 1939-40.....	23,243.4	5,270	0	63.5	46,100

Peak discharge.- July 16 (11:30 p.m.) 2,670 sec.-ft.; July 26 (6:40 a.m.) 13,000 sec.-ft.; Aug. 15 (9:45 a.m.) 4,540 sec.-ft.; Aug. 21 (3 a.m.) 2,070 sec.-ft.; Aug. 25 (10 p.m.) 2,120 sec.-ft.; Sept. 12 (9:10 p.m.) 4,210 sec.-ft.

*Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

c Construction of concrete control; discharge based on engineer's field estimates.

Little Colorado River at Grand Falls, Ariz.

Location.- Water-stage recorder, lat. 35°26', long. 111°12', in T. 24 N., R. 11 E., unsurveyed, at Grand Falls, on Navajo Indian Reservation, 38 miles northeast of Flagstaff, and 96 miles upstream from mouth. Datum of gage is about 4,440 feet above mean sea level (from river-profile map).

Drainage area.- 21,200 square miles (revised).

Records available.- November 1925 to September 1940.

Average discharge.- 15 years, 304 second-feet.

Extremes.- Maximum discharge during year, 20,100 second-feet July 27 (gage height, 19.57 feet); no flow on many days.

1925-40: Maximum discharge, 50,500 second-feet Apr. 5, 1929 (gage height, 30.0 feet); no flow during some periods in most years.

A discharge of about 120,000 second-feet occurred Sept. 19, 1923 (gage height, 47.0 feet, from floodmarks).

Remarks.- Records excellent except those for day of ice effect or periods of incomplete gage-height record, which are fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	13	555	78	a1		0	a60	102
2			0	0	13	619	97	0		0	a40	72
3			3	0	57	545	84	0		0	a25	66
4			13	0	485	576	65	0		0	21	517
5			24	13	278	375	50	0		0	14	411
6			22	23	277	316	40	0		0	8	159
7			17	19	209	a260	36	0		0	4	a110
8			12	21	164	a230	259	0		0	2	a90
9			6	20	135	a170	525	0		0	1	358
10			4	18	130	a140	462	0		0	3	152
11			2	16	114	a120	354	0		0	84	120
12			1	16	88	132	312	0		0	2	182
13			0	15	72	334	a240	0		0	30	1,500
14			0	19	65	531	a180	0		0	19	3,270
15			0	b20	54	311	a140	0		0	1,320	1,610
16			0	18	54	a220	a100	0		0	3,170	a630
17			0	12	51	a150	a80	0		0	995	a280
18			0	9	48	a110	a60	0		0	474	a150
19			0	8	38	98	43	0		0	203	3,320
20			0	12	34	87	27	0		0	483	1,980
21			0	14	33	81	a15	0		4	486	606
22			0	12	31	78	a10	0		2	891	2,710
23			0	11	27	82	a5	0		1	2,270	904
24			0	10	22	92	12	0		0	2,260	1,330
25			0	13	20	107	31	0		0	1,720	832
26			0	17	20	116	26	0		0	2,910	470
27			0	17	16	102	a15	0		4,540	1,890	187
28			0	16	12	100	a10	0		1,070	945	116
29			0	15	155	98	a6	0		a320	383	534
30			0	14	-	86	a3	0		a150	238	3,190
31			0	14	-	72	-	0		a80	148	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						0	0	0	0	0		
November.....						0	0	0	0	0		
December.....						104	24	0	3.4	206		
Calendar year 1939.....						42,076	4,520	0	115	83,450		
January.....						412	23	0	13.3	817		
February.....						2,695	465	12	92.9	5,350		
March.....						6,783	619	72	219	13,470		
April.....						3,365	525	3	112	6,670		
May.....						1	1	0	.03	2.0		
June.....						0	0	0	0	0		
July.....						6,167	4,540	0	199	12,230		
August.....						21,199	3,170	1	684	42,050		
September.....						25,938	3,320	66	865	51,450		
Water year 1939-40.....						66,674	4,540	0	182	132,200		

a Gage-height record incomplete; discharge computed from gage heights estimated on basis of partial record, record for preceding and following days, and weather records.

b Stage-discharge relation affected by ice.

Silver Creek near Woodruff, Ariz.

Location.- Water-stage recorder, lat. $34^{\circ}44'$, long. $110^{\circ}02'$, in sec. 32, T. 16 N., R. 22 E., half a mile upstream from mouth and 3 miles south of Woodruff. Control for station is crest of diversion dam 1,700 feet downstream.

Drainage area.- 942 square miles.

Records available.- April 1929 to October 1933, October 1935 to September 1940.

Extremes.- Maximum discharge during year, 11,000 second-feet July 26 (gage height, 12.37 feet), by slope-area method; no flow on many days.

1929-40: Maximum discharge, 12,100 second-feet July 21, 1929 (gage height, 11.67 feet), from rating curve in effect at time extended above 3,000 second-feet on basis of records for Little Colorado River near Woodruff; maximum gage height, that of July 26, 1940; no flow during several days in spring and summer of each year.

Remarks.- Records good except those for period of ice effect or no gage-height record, which are poor. Diversions above station for irrigation. Regulation by several reservoirs (combined capacity, about 27,000 acre-feet). Records show discharge over dam and do not include flow in canal that diverts at dam. See table of miscellaneous discharge measurements for flow in canal.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1	6	6	a3	11	6	0		0	4	4	5
2	1	5	7	a3	13	7	0		a3	1	2	5
3	1	4	6	a4	*11	6	0		0	0	1	5
4	1	4	4	*8	10	6	0		0	0	1	4
5	2	2	4	10	9	6	0		0	0	0	4
6	3	3	*4	9	7	8	0		0	0	0	20
7	3	3	4	8	7	9	0		0	0	0	13
8	2	4	4	9	8	9	0		0	0	0	7
9	2	5	4	9	7	8	0		0	0	0	3
10	3	7	4	9	7	8	0		0	0	1	2
11	4	5	4	8	7	8	0		0	0	2	62
12	3	6	3	7	7	6	0		0	0	2	306
13	3	10	3	7	7	1	0		0	0	2	142
14	2	10	3	7	8	0	0		0	0	2	19
15	2	9	3	6	10	0	0		0	0	88	22
16	2	7	3	6	9	0	0		0	323	38	6
17	2	6	3	6	7	0	2		0	192	11	14
18	2	6	3	6	7	0	7		0	11	59	202
19	2	7	3	7	*7	0	8		0	2	155	94
20	2	7	3	*7	7	0	8		0	0	147	25
21	2	7	*3	8	7	0	8		0	0	31	10
22	3	6	3	8	8	0	7		0	0	15	10
23	4	6	3	8	9	0	3		0	0	62	68
24	4	4	3	8	9	0	15		0	0	127	193
25	5	4	5	7	9	0	1		0	0	522	38
26	6	4	b4	7	9	0	0		0	2,750	184	18
27	7	3	b3	6	9	0	0		16	110	29	112
28	10	2	a3	5	8	0	0		5	31	13	191
29	10	25	a3	5	6	0	0		4	14	10	184
30	6	12	a3	5	-	0	0		21	10	6	77
31	4	-	a3	10	-	0	-		-	8	5	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	103	10	1	3.3	204
November.....	189	25	2	6.3	375
December.....	114	7	3	3.7	226
Calendar year 1939.....	3,167	356	0	8.7	6,280
January.....	216	10	3	7.0	428
February.....	240	13	6	8.3	476
March.....	88	9	0	2.8	175
April.....	59	15	0	2.0	117
May.....	0	0	0	0	0
June.....	46	21	0	1.5	81
July.....	3,454	2,750	0	111	6,850
August.....	1,519	522	0	49.0	3,010
September.....	1,861	306	2	62.0	3,690
Water year 1939-40.....	7,889	2,750	0	21.6	15,640

Peak discharge.- July 26 (1:30 a.m.) 11,000 sec.-ft.; Aug. 25 (3:20 p.m.) 1,610 sec.-ft.

*Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of weather records and records for Little Colorado River near Woodruff.

b Stage-discharge relation affected by ice.

LITTLE COLORADO RIVER BASIN

Puerco River at Gallup, N. Mex.

Location.- Water-stage recorder, lat. $35^{\circ}32'$, long. $108^{\circ}44'$, in SW $\frac{1}{4}$ sec. 15, T. 15 N., R. 18 W., 1,500 feet upstream from Second Street bridge in Gallup. Datum of gage is 6,490.36 feet above mean sea level (general adjustment of 1929).

Drainage area.- 558 square miles.

Records available.- May to September 1940.

Extremes.- Maximum discharge during period, 3,500 second-feet Sept. 21 (gage height, 7.3 feet), by velocity-area studies; no flow many days.

Remarks.- Records poor. Small diversions above station.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									0	0	0	0
2									0	0	5	0
3									0	0	0	0
4									0	0	0	0
5									0	0	0	0
6									0	0	1	25
7									0	0	0	1
8									0	0	0	0
9									0	0	0	0
10									0	0	0	0
11									0	0	0	80
12									0	4	0	20
13									0	0	0	10
14									0	10	10	2
15									0	2	25	0
16									0	10	7	0
17									0	2	0	20
18									0	30	67	300
19									0	1	85	7
20									0	0	25	4
21									0	0	0	270
22									0	0	90	25
23									0	0	100	100
24									0	0	10	5
25									0	0	0	20
26									0	0	20	30
27									0	70	0	2
28									0	110	0	70
29									110	3	0	90
30									15	0	0	90
31									-	0	0	-
Month	Second-foot-days					Maximum	Minimum	Mean	Run-off in acre-feet			
October.....												
November.....												
December.....												
Calendar year												
January.....	-					-	-	-	-			
February.....	-					-	-	-	-			
March.....	-					-	-	-	-			
April.....	-					-	-	-	-			
May.....	0					0	0	0	0			
June.....	125					110	0	4.2	248			
July.....	242					110	0	7.8	490			
August.....	445					100	0	14.4	883			
September.....	1,151					300	0	38.4	2,280			
The period.....	-					-	-	-	3,890			

Peak discharge.- July 27 (12 p.m.) 1,450 sec.-ft.; Sept. 11 (6:45 p.m.) 1,380 sec.-ft.; Sept. 18 (3 a.m.) 1,150 sec.-ft.; Sept. 21 (7 p.m.) 3,500 sec.-ft.

Puerco River near Adamana, Ariz.

Location.- Water-stage recorder, lat. 34°59', long. 109°48', in sec. 9, T. 18 N., R. 24 E. at highway bridge in Petrified Forest National Monument, three-quarters of a mile downstream from Dead River and 1½ miles southeast of Adamana. Datum of gage is 5,312.79 feet above mean sea level (general adjustment of 1929).

Drainage area.- 2,760 square miles.

Records available.- March to September 1940.

Extremes.- Maximum discharge during period, 7,500 second-feet Aug. 23 (gage height, 5.9 feet), from rating curve extended above 5,500 second-feet; no flow during greater part of period.

Remarks.- Records poor. Minor diversions, mostly by pumping, above station.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							0		0	50	0	0
2							0		0	20	0	250
3							0		0	3	0	60
4							0		0	1	0	20
5							0		0	0	0	5
6							0		0	0	0	25
7							0		0	0	170	30
8							0		0	0	30	20
9							0		0	0	10	10
10							0		0	0	5	5
11							0		0	0	0	2
12							0		0	0	0	150
13							0		0	0	0	500
14							0		0	0	750	400
15							0		0	0	150	200
16							4		0	0	500	10
17							6		0	0	120	20
18							1		0	0	100	800
19							0		0	0	50	400
20							0		0	0	70	70
21							0		0	0	800	40
22							0		0	0	430	250
23							0		0	0	2,000	350
24							0		0	60	200	700
25							0		0	60	150	60
26							0		0	40	200	20
27							0		0	0	140	20
28							0		0	100	100	50
29							0		10	120	10	400
30							0		70	20	5	1,150
31		-			-		-		-	0	1	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....												
November.....												
December.....												
Calendar year												
January.....						-	-	-	-	-		
February.....						-	-	-	-	-		
March.....						0	0	0	0	0		
April.....						11	6	0	.4	22		
May.....						0	0	0	0	0		
June.....						80	70	0	2.7	159		
July.....						474	120	0	15.3	940		
August.....						5,991	2,000	0	193	11,880		
September.....						5,997	1,150	0	200	11,890		
Water year 1939-40						-	-	-	-	24,890		

Peak discharge.- Aug. 14 (8:45 p.m.) 7,000 sec.-ft.; Aug. 21 (9:45 p.m.) 5,200 sec.-ft.; Aug. 23 (4:30 a.m.) 7,500 sec.-ft.; Sept. 30 (8:30 a.m.) 3,500 sec.-ft.; Sept. 30 (2 p.m.) 2,800 sec.-ft.

LITTLE COLORADO RIVER BASIN

Chevelon Fork near Winslow, Ariz.

Location.— Water-stage recorder, lat. 34°56', long. 110°31', in sec. 27, T. 18 N., R. 17 E., 3 miles upstream from mouth and 12 miles southeast of Winslow.

Drainage area.— 1,010 square miles.

Records available.— December 1905 to December 1908, December 1915 to December 1919, March 1929 to February 1934, September 1935 to September 1940.

Extremes.— Maximum discharge during year, 1,180 second-feet July 25 (gage height, 7.01 feet); minimum, 3 second-feet on many days.

1929-40: Maximum discharge, 16,100 second-feet April 4, 1929 (gage height, 17.8 feet), from rating curve extended above 6,000 second-feet; minimum, about 1 second-foot at times in each of several years.

Remarks.— Records good except those above 10 second-feet in November, July, August, and September, which are poor. No diversions above station. Chevelon canal (see list of miscellaneous discharge measurements at end of report) diverts below station and has maximum capacity of about 10 second-feet.

Discharge, in second-feet, water year October 1939 to September 1940

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4	4	8	6	4	332	22	5	4	3	4	3
2	3	4	6	6	28	291	19	5	4	4	4	30
3	3	4	5	4	154	247	16	5	4	4	4	40
4	3	4	4	4	178	197	12	5	4	4	3	6
5	4	4	4	4	125	158	11	5	4	4	3	4
6	3	4	4	4	97	118	128	4	4	4	3	4
7	3	4	4	4	90	104	327	4	4	4	3	4
8	3	4	4	4	74	112	332	5	4	4	3	4
9	4	4	4	4	64	88	223	5	4	4	3	4
0	4	4	4	4	55	98	154	5	4	4	3	4
1	4	4	4	4	44	115	108	5	4	4	3	3
2	4	4	4	4	36	352	74	4	4	4	3	3
3	4	4	4	4	30	201	52	4	4	4	3	6
4	4	4	4	4	28	118	36	4	3	4	3	4
5	4	4	4	4	28	84	24	4	3	4	51	3
6	4	4	4	4	24	64	19	4	3	8	24	3
7	4	4	4	4	23	51	17	4	3	21	6	10
8	4	4	4	4	21	46	13	4	3	4	4	30
9	4	4	4	4	19	46	11	4	3	4	3	6
0	4	4	4	4	17	44	8	4	3	5	3	5
1	4	3	4	4	15	43	7	4	3	5	3	4
2	4	3	4	4	15	44	7	4	3	5	6	4
3	4	3	4	4	15	52	14	4	3	5	160	4
4	4	4	4	4	14	46	11	5	3	5	55	6
5	4	5	8	4	13	39	9	4	3	82	25	4
6	3	4	6	4	11	33	6	4	3	94	6	4
7	4	3	4	4	44	29	6	4	3	6	4	4
8	4	3	4	4	375	25	5	4	3	4	3	4
9	4	30	4	4	370	22	5	4	3	4	3	5
0	4	20	4	4	-	18	5	4	3	4	3	3
1	4	-	4	4	-	17	-	4	-	4	3	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						117	4	3	3.8	232		
November.....						208	80	3	6.9	413		
December.....						137	8	4	4.4	272		
Calendar year 1939						13,092	987	2	35.9	25,960		
January.....						128	6	4	4.1	254		
February.....						2,011	375	4	69.3	3,990		
March.....						3,234	352	17	104	6,410		
April.....						1,681	332	5	56.0	3,330		
May.....						134	5	4	4.3	266		
June.....						103	4	3	3.4	204		
July.....						319	94	3	10.3	633		
August.....						407	160	3	13.1	807		
September.....						218	40	3	7.3	432		
Water year 1939-40						8,697	375	3	23.8	17,240		

Peak discharge.— Feb. 29 (4 a.m.) 447 sec.-ft.; July 25 (10:30 p.m.) 1,180 sec.-ft.; Aug. 23 (5 p.m.) 845 sec.-ft.

Clear Creek near Winslow, Ariz.

Location.- Water-stage recorder, lat. 34°58', long. 110°33', in SE¼ sec. 9, T. 18 N., R. 18 E., 1½ miles upstream from mouth and 5 miles southeast of Winslow. Control for station is crest of diversion dam 1,000 feet downstream.

Drainage area.- 607 square miles.

Records available.- March 1929 to February 1934, October 1935 to September 1940. June 1906 to January 1909, at site 3 miles upstream.

Extremes.- Maximum discharge during year, 1,840 second-feet Aug. 15 (gage height, 6.85 feet); no flow on many days.

1929-40: Maximum discharge, 50,000 second-feet Apr. 4, 1929 (gage height, 18.1 feet), from rating curve extended above 13,500 second-feet on basis of velocity-area studies; no flow on many days in each year.

Remarks.- Records good except those below 5 second-feet, which are fair. Water diverted above station for municipal and industrial supply. Records show discharge over dam and do not include flow in canal that diverts at dam or leakage through dam (see table of miscellaneous discharge measurements at end of report for flow at mouth of creek, which includes leakage).

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	1	1	4	398	97	24			0	
2		0	1	1	4	372	80	20			0	
3		0	1	1	2	323	72	16			0	
4		0	1	1	22	276	72	13			0	
5		0	1	1	170	240	60	9			0	
6		0	1	1	128	184	170	7			0	
7		.5	1	1	102	158	269	3			0	
8		.5	2	1	72	158	323	2			0	
9		.5	2	1	65	133	339	0			0	
10		.5	2	1	50	144	300	0			0	
11		.5	2	1	34	170	261	0			0	
12		.5	2	1	28	336	210	0			0	
13		.5	3	2	26	331	158	0			0	
14		1	3	2	26	218	112	0			32	
15		1	3	2	26	144	63	0			307	
16		.5	3	2	18	123	68	0			17	
17		.5	3	2	13	102	61	0			36	
18		.5	2	2	16	87	47	0			5	
19		.5	2	3	20	87	42	0			.5	
20		.5	2	3	15	87	42	0			.5	
21		.5	2	4	10	97	68	0			.5	
22		.5	2	4	9	123	87	0			0	
23		.5	2	4	8	138	72	0			17	
24		1	2	4	8	144	57	0			1	
25		1	2	4	7	133	47	0			.5	
26		.5	1	4	5	128	36	0			0	
27		.5	1	4	4	112	47	0			0	
28		.5	1	4	209	112	42	0			0	
29		2	1	4	440	107	32	0			0	
30		1	1	4	-	169	26	0			0	
31		-	1	4	-	123	-	0			0	

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	0	0	0	0	0
November.....	16.0	2	0	.53	32
December.....	54	3	1	1.7	107
Calendar year 1939	15,187.3	1,200	0	41.6	30,120
January.....	74	4	1	2.4	147
February.....	1,543	440	2	53.2	3,060
March.....	5,457	398	87	176	10,820
April.....	3,400	339	26	113	6,740
May.....	94	24	0	3.0	186
June.....	0	0	0	0	0
July.....	0	0	0	0	0
August.....	0	0	0	0	0
September.....	417.0	307	0	13.5	827
Water year 1939-40	11,055.0	440	0	30.2	21,920

Peak discharge.- Mar. 12 (2 to 6 p.m.) 432 sec.-ft.; Aug. 15 (1 a.m.) 1,840 sec.-ft.

Salt Creek near Winslow, Ariz.

Location.- Staff gage, lat. 34°59', long. 110°39', in SW¼ sec. 4, T. 18 N., R. 16 E., half a mile downstream from county highway bridge, one mile upstream from mouth, and 4 miles southeast of Winslow.

Drainage area.- 287 square miles.

Records available.- October 1939 to September 1940.

Extremes.- Maximum discharge during year, 2,900 second-feet Aug. 14 or 15 (gage height, 7.6 feet, from floodmarks), by computation of flow over dam; no flow during long periods.

Remarks.- Records fair except those above 100 second-feet, which are poor. Gage read TWICE daily or oftener. Small diversions above station for irrigation.

Cooperation.- Gage-height record collected in cooperation with the Arizona Game and Fish Commission.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								0	0	0.2	0	0
2								0	0	0	0	.3
3								0	0	0	0	.1
4								0	0	0	0	0
5								0	0	0	0	0
6								0	0	0	0	0
7								0	0	0	0	0
8								0	0	0	0	0
9								0	0	0	0	0
10								0	0	0	0	0
11								0	0	0	0	48
12								0	0	0	0	110
13								0	0	0	0	15
14								0	0	0	180	2
15								0	0	0	340	.1
16								0	0	0	59	0
17								0	0	0	2	.1
18								0	0	0	.2	12
19								0	0	0	8	3
20								0	0	0	3	3
21								0	0	0	.2	53
22								0	0	0	.1	450
23								20	0	0	16	93
24								4	0	0	12	7
25								.6	0	0	5	1
26								.4	34	.2	2	.3
27								.1	9	.9	.3	.1
28								0	8	.2	.1	0
29								0	3	0	0	25
30					-			0	.5	0	0	5
31		-			-		-	0	-	0	0	-
Month				Second-foot-days		Maximum		Minimum		Mean		Run-off in acre-feet
October.....				0		0		0		0		0
November.....				0		0		0		0		0
December.....				0		0		0		0		0
Calendar year				-		-		-		-		-
January.....				0		0		0		0		0
February.....				0		0		0		0		0
March.....				0		0		0		0		0
April.....				0		0		0		0		0
May.....				25.1		20		0		.61		50
June.....				54.5		34		0		1.82		108
July.....				1.5		.9		0		.05		3
August.....				627.9		340		0		20.3		1,250
September.....				828		450		0		27.6		1,640
Water year 1939-40				1,537.0		450		0		4.20		3,050

Moenkopi Wash near Tuba, Ariz.

Location.— Water-stage recorder, lat. 36°06', long. 111°18'. in T. 31 N., R. 10 E., unsurveyed, on Navajo Indian Reservation, at highway bridge, 5 miles southwest of Tuba and 17 miles upstream from mouth.

Drainage area.— 2,270 square miles.

Records available.— July 1926 to September 1940.

Average discharge.— 14 years, 23.3 second-feet.

Extremes.— Maximum discharge during year, 7,580 second-feet Sept. 30 (gage height, 8.7 feet), from rating curve extended above 3,000 second-feet on basis of velocity-area studies; no flow for many days.

1926-40: Maximum discharge, 15,100 second-feet Aug. 4, 1929 (gage height, 15.4 feet), by slope-area method; no flow on several days in each year.

Revisions.— The figures of maximum discharge for the water years 1935 to 1939 have been revised, as shown in the following table. They supersede those published in the water-supply papers indicated.

Water-Supply Paper	Water year	Date	Gage height (feet)	Discharge (second-feet)
789.....	1934-35	Sept. 1	5.08	2,320
809.....	1935-36	Sept. 2	10.5	11,000
829.....	1936-37	Sept. 2	9.0	8,120
859.....	1937-38	Sept. 4	7.30	5,270
879.....	1938-39	Sept. 11	8.30	6,890

Remarks.— Records good except those for period of ice effect, which are fair. Diversions above station for irrigation.

Revisions.— Revised figures of discharge for high-water periods in the water years 1935 to 1939 are given herein. They supersede those published in Water-Supply Papers 789, 809, 829, 859, and 879.

Day (water year)	Discharge (second-feet)	Day (water year)	Discharge (second-feet)
1934-35		1936-37	
Aug. 24.....	277	July 12.....	75E
25.....	659	28.....	28C
31.....	306	29.....	55A
Sept. 1.....	407	Sept. 2.....	1,30C
		7.....	25E
		30.....	4,39C
1935-36		1937-38	
July 20.....	238	Oct. 1.....	51E
Aug. 1.....	334	Mar. 1.....	41E
3.....	411	Aug. 9.....	26E
30.....	2,700	31.....	32E
Sept. 2.....	1,700	Sept. 4.....	86E
3.....	570		
13.....	508	1938-39	
22.....	730	Sept. 11.....	1,57C
		12.....	70E
1936-37			
July 9.....	686		

Peak discharge (revised).— Mar. 1, 1938 (11:30 a.m.) 93C sec.-ft.; Sept. 4, 1938 (7:10 a.m.) 5,270 sec.-ft.; Sept. 11, 1939 (7 a.m.) 5,120 sec.-ft.; Sept. 11, 1939 (10:40 p.m.) 6,890 sec.-ft.

Discharge, in second-feet, water year, October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1												
2	0.1	4.2	4.2	4.9	3.1	3.1	0.2	0		0	0	0.4
3	.1	4.2	4.2	b5.6	11	3.1	.3	0		0	0	137
4	.1	4.2	3.6	7.2	14	3.1	.2	0		0	0	177
5	3.1	4.9	4.9	5.6	7.2	3.1	.2	0		0	0	139
6	3.1	4.9	4.9	6.4	5.6	3.1	.2	0		0	0	18
7	3.1	4.9	4.9	5.6	3.6	2.6	.1	0		0	0	7.1
8	3.6	4.2	4.9	1.5	3.1	.3	.1	0		0	0	3.4
9	3.6	4.2	4.9	2.6	4.2	.6	.2	0		0	2.8	1.5
10	3.6	4.9	4.9	7.2	3.6	1.5	.2	0		0	.3	.9
11	3.6	6.4	5.6	4.9	3.1	2.2	.1	0		0	.1	.4
12	3.6	5.6	5.6	4.9	4.9	.9	0	0		0	0	2.1
13	3.6	5.6	5.6	3.6	5.6	.3	0	0		0	0	2.7
14	3.6	4.9	4.9	4.9	5.6	.2	0	0		0	0	6.4
15	3.6	4.2	4.2	b2.2	4.2	.1	0	0		0	0	636
16	3.6	4.2	4.9	2.6	5.6	.2	.2	0		0	.1	658
17	1.3	4.2	4.9	2.6	4.9	.2	.5	0		0	0	48
18	4.2	4.2	5.6	2.6	4.2	1.3	.3	0		0	34	647
19	3.6	3.6	4.9	b2.6	4.2	4.9	.1	0		0	20	750
20	3.6	3.6	4.2	b2.6	4.9	4.2	.1	0		2.4	18	135
21	3.6	3.6	3.6	3.1	4.2	4.9	0	.1		.2	2.6	19
22	3.6	3.6	b3.7	4.2	.9	4.2	0	.2		0	161	8.7
23	3.6	3.6	b3.6	3.6	5.6	3.1	0	.1		0	317	5.3
24	3.6	3.6	b2.7	3.1	7.2	.5	0	.2		0	54	1,170
25	3.6	3.6	b3.1	3.1	7.2	.2	9.1	0		1,100	94	
26	3.1	5.6	7.2	4.2	6.4	.1	3.2	.2		0	503	20
27	3.1	5.6	4.9	4.2	6.4	.2	.3	.3		0	369	10
28	3.6	4.9	b.9	4.2	6.4	.2	.2	.1		0	44	5.8
29	3.6	4.9	2.6	3.6	5.6	.3	.2	0		0	14	456
30	3.6	4.9	3.1	3.6	3.6	.6	.1	0		0	4.3	819
31	3.6	4.9	b2.6	2.6	-	.6	.2	0		0	.8	2,690
	3.6	-	4.9	2.6	-	.2	-	0		0	.4	-

Peak discharge.— Aug. 24 (10 p.m.) 2,900 sec.-ft.; Sept. 14 (3:15 a.m.) 4,330 sec.-ft.; Sept. 23 (9:15 a.m.) 5,740 sec.-ft.; Sept. 28 (12 p.m.) 3,820 sec.-ft.; Sept. 30 (5:30 p.m.) 7,580 sec.-ft.

b Stage-discharge relation affected by ice.

LITTLE COLORADO RIVER BASIN

Monthly discharge, in second-feet, of Moenkopi Wash near Tuba, Ariz., 1934-40

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October 1934	103.9	4.2	2.7	3.35	206
November.....	140.0	9.6	2.7	4.67	278
December.....	170.9	10	3.4	5.51	359
Calendar year 1934	5,760.9	2,600	0	15.8	11,420
January 1935	334.4	78	2	10.8	663
February.....	168.0	10	3.4	6.00	333
March.....	145.5	7.1	3.8	4.69	289
April.....	33.3	3.4	0	1.11	66
May.....	14.2	5.2	0	.46	28
June.....	0	0	0	0	0
July.....	97.5	76	0	3.15	193
August.....	2,009.4	659	0	64.8	3,990
September.....	836.4	407	0	27.9	1,660
Water year 1934-35	4,053.5	659	0	11.1	8,040
October 1935	218.7	45	3.4	7.05	434
November.....	195.5	50	3	6.52	388
December.....	210.9	16	3.7	6.80	418
Calendar year 1935	4,263.8	659	0	11.7	8,460
January 1936	195.5	8.5	4.6	6.31	388
February.....	236.3	35	2.9	8.15	469
March.....	86.5	4.9	.1	2.79	172
April.....	14.3	2.3	0	.48	28
May.....	.3	.1	0	.01	0
June.....	0	0	0	0	0
July.....	787.8	238	0	23.4	1,560
August.....	6,395.9	2,700	.2	203	12,690
September.....	4,068.3	1,700	2.3	133	8,070
Water year 1935-36	12,410.0	2,700	0	33.9	24,620
October 1936	301.3	96	4.6	9.72	598
November.....	238.4	46	4.6	7.95	473
December.....	181.0	8.3	4.1	5.84	359
Calendar year 1936	12,505.6	2,700	0	34.2	24,810
January 1937	113.0	7	2	3.65	224
February.....	729.0	124	3.5	23.0	1,450
March.....	194.4	21	.3	6.27	386
April.....	48.8	14	0	1.63	97
May.....	0	0	0	0	0
June.....	79.5	44	0	2.65	158
July.....	3,311.1	755	0	107	6,570
August.....	200.1	46	0	6.45	397
September.....	6,180.5	4,390	.1	203	12,260
Water year 1936-37	11,577.1	4,390	0	31.7	22,970
October 1937	686.0	519	3.3	22.1	1,360
November.....	129.6	5.0	3.8	4.32	257
December.....	164.3	9.6	1.8	5.30	326
Calendar year 1937	11,836.3	4,390	0	32.4	23,480
January 1938	162.0	8.0	2.9	5.23	321
February.....	135.4	7.2	2.9	4.84	269
March.....	817.6	412	.1	23.4	1,620
April.....	16.1	2.5	0	.54	32
May.....	0	0	0	0	0
June.....	62.0	60	0	2.07	123
July.....	34.6	17	0	1.12	69
August.....	993.2	322	0	32.0	1,970
September.....	1,110.2	862	0	37.0	2,200
Water year 1937-38	4,311.0	862	0	11.8	8,550
October 1938	94.2	6.4	.1	3.04	187
November.....	105.1	5.6	.3	3.50	208
December.....	160.2	13	.8	5.17	318
Calendar year 1938	3,690.6	862	0	12.1	7,320
January 1939	142.4	6.9	2.9	4.59	282
February.....	131.4	6.9	2.7	4.69	261
March.....	80.4	5.0	0	2.59	159
April.....	42.5	3.3	0	1.42	84
May.....	0	0	0	0	0
June.....	0	0	0	0	0
July.....	0	0	0	0	0
August.....	151.0	108	0	4.87	300
September.....	2,616.9	1,570	0	87.2	5,190
Water year 1938-39	3,524.1	1,570	0	9.66	6,990

Monthly discharge, in second-feet, of Moenkopi Wash near Tuba, Ariz., 1934-40--Continued

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October 1939	94.1	4.2	0.1	3.04	187
November.....	136.0	6.4	3.6	4.53	270
December.....	134.7	7.2	.9	4.35	267
Calendar year 1939	3,529.4	1,570	0	9.67	7,000
January 1940	122.2	7.2	1.5	3.94	242
February.....	156.1	14	.9	5.38	310
March.....	50.1	4.9	.1	1.62	99
April.....	16.2	9.1	0	.54	32
May.....	1.2	.3	0	.04	2.4
June.....	0	0	0	0	0
July.....	2.6	2.4	0	.08	5.2
August.....	2,675.4	1,100	0	86.3	5,310
September.....	8,561.7	2,590	.4	285	16,980
Water year 1939-40	11,950.3	2,590	0	32.7	23,700

BRIGHT ANGEL CREEK BASIN

Bright Angel Creek near Grand Canyon, Ariz.

Location.- Staff gage, lat. $36^{\circ}05'55''$, long. $112^{\circ}05'38''$, an eighth of a mile upstream from mouth and 11 miles by trail from Grand Canyon Village, Coconino County. Datum of gage is 2,444.7 feet above mean sea level (preliminary adjustment of 1929).

Drainage area.- 100 square miles.

Records available.- October 1923 to September 1940.

Average discharge.- 17 years, 38.3 second-feet.

Extremes.- Maximum discharge during year, 602 second-feet Aug. 24 (gage height, 3.30 feet, from floodmark); minimum discharge observed, 17 second-feet Aug. 31. 1923-40: Maximum discharge, 4,400 second-feet Aug. 19, 1936, by slope-area method; minimum, 9 second-feet (regulated) June 29, 1934.

Remarks.- Records good. Gage read twice daily or oftener. Small diversions above station for irrigation. Some fluctuation in flow caused by power plant 9 miles above station; no regulation by storage. During the year 79 discharge measurements were made.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	34	25	25	25	28	37	125	131	38	26	21	18
2	32	25	25	25	31	34	112	131	38	25	21	20
3	34	25	25	25	32	33	102	144	37	26	21	20
4	32	26	24	25	41	32	85	146	38	25	21	21
5	31	25	24	26	36	31	79	144	39	24	22	19
6	29	25	24	26	30	31	77	142	40	24	21	20
7	30	26	24	27	30	31	80	123	39	24	21	19
8	29	25	24	29	30	31	82	110	38	26	21	20
9	30	26	24	28	28	31	88	102	39	24	20	21
10	28	26	25	27	28	33	100	98	37	24	20	21
11	27	26	24	29	28	34	123	95	34	24	22	22
12	28	26	25	48	28	34	140	90	33	24	21	43
13	29	25	24	33	29	33	154	85	31	23	23	24
14	28	25	25	28	29	32	179	79	32	23	21	22
15	28	26	24	27	30	32	218	76	30	24	21	21
16	28	26	24	26	30	31	218	74	31	25	21	24
17	28	26	24	26	28	33	170	73	31	26	20	62
18	26	26	25	26	27	33	150	69	30	26	21	30
19	27	26	25	26	27	38	157	63	31	25	21	28
20	27	26	25	26	28	39	189	59	28	25	21	28
21	26	26	25	26	28	43	218	57	28	22	27	25
22	26	26	25	26	27	47	230	53	31	21	22	25
23	27	25	25	26	28	55	223	51	28	20	22	25
24	26	25	25	26	29	62	200	49	28	22	52	24
25	26	26	25	26	29	76	200	46	27	21	26	23
26	26	25	25	26	73	82	202	46	28	22	21	24
27	26	25	25	26	48	102	193	45	28	21	18	24
28	26	25	24	26	40	118	157	44	28	21	18	25
29	25	25	24	26	36	103	137	42	26	22	18	24
30	25	25	24	26	-	93	129	39	27	21	18	24
31	25	-	25	26	-	93	-	39	-	21	18	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						869	34	25	23.0	1,720		
November.....						765	26	25	25.5	1,520		
December.....						761	25	24	24.5	1,510		
Calendar year 1939.....						12,995	127	19	35.6	25,780		
January.....						844	48	25	27.2	1,670		
February.....						936	75	27	32.3	1,860		
March.....						1,537	118	31	49.6	3,050		
April.....						4,516	230	77	151	8,960		
May.....						2,545	146	39	82.1	5,050		
June.....						973	40	26	32.4	1,930		
July.....						723	26	20	23.3	1,430		
August.....						681	52	18	22.0	1,350		
September.....						746	62	18	24.9	1,480		
Water year 1939-40.....						15,896	230	18	43.4	31,530		

Virgin River at Virgin, Utah

Location.- Chain gage, lat. 37°13', long. 113°11', in SE $\frac{1}{4}$ sec. 22, T. 41 S., R. 12 W., at east edge of Virgin, 0.5 mile downstream from North Creek.

Drainage area.- 990 square miles.

Records available.- April 1909 to September 1926 (fragmentary) and October 1926 to September 1940.

Average discharge.- 21 years (1910-14, 1915-16, 1917-18, 1923-24, 1926-40), 216 second-feet.

Extremes.- Maximum discharge observed during year, 4,370 second-feet Sept. 17 (gage height, 7.90 feet), from rating curve extended above 500 second-feet on basis of slope-area determinations at gage heights 8.05 and 10.7 feet; minimum observed, 53 second-feet July 30.

1909-40: Maximum discharge, 13,500 second-feet Mar. 3, 1938 (gage height, 10.7 feet, from floodmarks), by slope-area method; minimum discharge observed, 23 second-feet Sept. 30, 1931.

Remarks.- Records poor. Gage read once daily. Diversions above station for irrigation.

Cooperation.- Fifty-four discharge measurements furnished by U. S. Bureau of Reclamation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	133	128	133	112	455	204	282	260	101	73	56	66
2	122	128	120	109	477	183	342	275	105	70	59	194
3	a166	151	112	128	342	183	305	239	109	70	55	133
4	189	114	117	133	166	183	268	260	105	68	59	122
5	166	117	117	125	162	189	268	a250	101	70	62	112
6	169	117	109	125	166	194	239	246	101	70	74	g700
7	140	107	103	a142	151	194	275	260	101	71	70	g1,000
8	120	a100	112	158	151	199	282	253	96	70	60	g800
9	194	92	120	239	151	215	246	275	92	65	58	239
10	169	107	117	268	158	204	305	260	88	56	59	178
11	154	109	120	246	a152	183	379	282	80	55	56	140
12	114	101	125	1,410	147	158	399	220	78	55	58	g250
13	143	103	120	122	a149	162	a395	189	73	59	55	g300
14	122	107	114	136	151	154	a390	209	66	60	76	74
15	122	112	117	162	199	162	388	204	73	80	71	109
16	117	122	114	151	173	178	399	194	78	103	59	109
17	114	120	107	147	162	183	314	194	78	96	56	g1,500
18	114	131	107	143	a158	204	314	250	76	86	55	g550
19	112	112	103	128	154	215	388	166	73	80	a58	120
20	117	125	101	114	189	239	388	162	74	74	60	128
21	120	114	105	a124	a220	232	360	178	71	74	56	107
22	a114	109	112	133	a250	246	388	173	68	70	56	136
23	107	105	105	143	275	239	324	169	70	a65	g100	151
24	133	105	101	151	189	282	421	151	76	60	g200	117
25	133	105	98	147	169	282	399	140	66	62	114	112
26	114	a108	103	117	g1,100	296	379	131	76	60	86	107
27	117	112	117	169	360	289	379	122	70	59	a72	103
28	125	120	105	154	289	379	324	114	68	60	58	103
29	103	133	107	158	225	324	289	120	71	60	58	98
30	125	143	105	220	-	360	268	117	68	53	56	96
31	140	-	107	282	-	342	-	117	-	55	62	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						4,128	194	103	133	8,190		
November.....						3,437	143	92	115	6,820		
December.....						3,453	133	98	111	6,850		
Calendar year 1939.....						60,251	3,500	53	165	119,510		
January.....						6,096	1,410	109	197	12,090		
February.....						7,090	1,100	147	244	14,060		
March.....						7,057	379	154	248	14,000		
April.....						10,097	421	239	337	20,030		
May.....						6,180	282	114	199	12,260		
June.....						2,452	109	66	81.7	4,860		
July.....						2,109	103	53	68.0	4,180		
August.....						2,134	200	55	68.9	4,230		
September.....						8,054	1,500	66	268	15,970		
Water year 1939-40.....						62,287	1,500	53	170	123,500		

a No gage-height record; discharge interpolated.

g Computed from graph based on one or more gage readings daily.

Virgin River at Littlefield, Ariz.

Location.- Staff gage, lat. $36^{\circ}53'$, long. $113^{\circ}56'$, in SW $\frac{1}{4}$ sec. 4, T. 40 N., R. 15 W., half a mile downstream from Beavertown Wash and half a mile east of Littlefield. Prior to Nov. 8, 1939, at datum 0.53 foot higher.

Drainage area.- 4,400 square miles.

Records available.- October 1939 to September 1940.

Average discharge.- 11 years, 261 second-feet.

Extremes.- Maximum discharge observed during year, 12,800 second-feet Sept. 18 (gage height, 7.4 feet), from rating curve extended above 1,100 second-feet on basis of slope-area determination at 22,000 second-feet; minimum observed, 53 second-feet June 15, 25-27, July 5, 6.

1929-40: Maximum discharge (revised), 22,000 second-feet Mar. 3, 1938 (gage height, 10.3 feet, datum then in use, from floodmark), by slope-area method; minimum observed, 23 second-feet Aug. 31, 1935 (published in error as 25 second-feet in Water-Supply Paper 879).

Remarks.- Records poor. Gage read once daily. A few second-feet of water diverted from Beavertown Springs; no other diversion in Arizona, but several canals divert water above station in Utah. A few miles below station Bunkerville and Mesquite canals divert water for irrigation in Nevada.

Cooperation.- Two discharge measurements furnished by U. S. Bureau of Reclamation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	184	103	164	194	222	815	254	167	55	55	56	54
2	218	110	164	204	909	590	582	170	56	54	56	59
3	357	106	167	201	730	631	452	159	56	54	56	gl,900
4	204	92	167	198	1,190	530	259	164	58	54	56	gl,300
5	211	88	153	321	922	428	250	153	59	53	58	154
6	184	103	159	274	385	444	234	143	56	53	58	108
7	156	101	167	246	357	351	173	148	58	54	56	g2,400
8	146	993	167	274	327	254	170	139	55	54	56	g560
9	173	85	148	303	238	246	164	125	55	54	56	gl,200
10	161	101	170	351	250	274	170	101	55	54	56	g250
11	156	108	155	333	293	274	201	101	54	54	56	101
12	156	106	146	345	230	230	207	94	54	54	56	60
13	151	114	139	2,650	222	238	188	87	54	54	56	gl,200
14	151	116	148	333	234	194	201	67	54	54	58	gl,800
15	143	134	136	288	250	207	246	59	53	54	58	gl,200
16	131	177	141	269	204	234	238	59	54	54	58	80
17	129	134	148	269	218	204	201	58	54	54	58	153
18	123	125	146	264	211	218	201	55	54	54	58	g4,600
19	116	127	161	254	218	198	181	55	55	55	58	g600
20	114	141	163	238	204	184	211	82	55	55	59	159
21	101	153	161	222	201	175	198	70	54	54	59	125
22	103	148	141	207	207	164	211	60	55	55	59	80
23	108	146	148	264	230	148	226	59	55	55	60	169
24	110	161	173	234	g560	181	250	55	54	55	58	134
25	106	170	175	218	303	167	250	56	53	55	gl,400	148
26	103	167	167	218	g4,500	173	226	55	53	55	g300	127
27	106	173	164	226	g3,200	198	226	55	53	55	74	108
28	110	181	169	211	gl,600	288	178	55	54	55	60	112
29	110	175	178	218	1,260	250	184	55	54	55	56	345
30	106	173	188	207	-	222	175	55	54	55	56	188
31	99	-	184	201	-	175	-	55	-	55	59	-
Month				Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet				
October.....				4,546	357	99	147	9,020				
November.....				3,911	181	85	130	7,760				
December.....				4,938	188	136	169	9,790				
Calendar year 1939.....				74,948	5,000	52	205	148,700				
January.....				10,235	2,650	194	330	20,500				
February.....				19,945	4,500	201	688	39,560				
March.....				8,888	818	148	297	17,630				
April.....				7,207	882	164	240	14,290				
May.....				2,851	170	55	92.0	5,650				
June.....				1,643	59	53	54.8	3,260				
July.....				1,686	56	53	54.4	3,340				
August.....				3,380	1,400	56	109	6,700				
September.....				18,334	4,600	54	611	36,360				
Water year 1939-40.....				87,564	4,600	53	239	173,700				

a No gage-height record; discharge interpolated.

g Computed from graph based on one or more gage readings daily.

North Fork of Virgin River near Springdale, Utah

Location.- Staff gage, lat. 37°12'35", long. 112°58'40", in SW¼ sec. 22, T. 41 S., R. 10 W., in Zion National Park, 0.2 mile downstream from point of diversion of Springdale canal, 0.5 mile downstream from Pine Creek, and 1.9 miles northeast of Springdale.

Drainage area.- 360 square miles.

Records available.- October 1932 to September 1940. June to November 1923 and April 1925 to September 1932, at site a quarter of a mile upstream from Pine Creek.

Average discharge.- 14 years (1925-31, 1932-40), 100 second-feet.

Extremes.- Maximum discharge observed during year, 4,110 second-feet Sept. 7 (gage height, 9.3 feet, from floodmarks), from rating curve extended above 300 second-feet on basis of slope-area determination at gage height 11.0 feet; minimum observed, 30 second-feet Aug. 11-13.

1925-40: Maximum discharge, 7,000 second-feet Mar. 3, 1938 (gage height, 11.0 feet, from floodmarks), by slope-area method; minimum discharge observed, 24 second-feet Dec. 17, 31, 1928.

Remarks.- Records fair except those above 300 second-feet, which are poor. Gage read once daily. Records give combined flow of North Fork of Virgin River and Springdale canal, which diverts in NW¼ sec. 22, T. 41 S., R. 10 W., for irrigation in vicinity of Springdale.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	48	56	49	42	63	73	a135	197	68	48	33	34
2	52	56	49	43	81	61	149	184	77	45	33	g121
3	61	54	51	57	61	61	128	184	75	43	33	77
4	75	54	51	53	61	d62	131	184	62	43	33	56
5	66	a53	51	57	63	d65	112	180	61	43	35	54
6	75	53	53	53	68	d70	126	167	57	41	37	g600
7	72	53	53	53	68	72	116	159	59	41	35	g1,000
8	76	53	51	60	72	72	116	148	57	42	35	g400
9	76	55	51	82	52	87	164	138	55	39	32	g200
10	76	55	51	64	58	84	139	133	55	41	32	72
11	67	54	51	64	48	70	149	133	53	39	30	72
12	62	54	51	g115	48	59	153	131	53	39	30	61
13	62	54	45	g130	48	59	149	115	51	39	30	g150
14	62	52	51	52	50	57	258	109	51	39	37	61
15	60	52	45	44	48	54	233	101	49	39	34	61
16	58	51	45	45	48	54	184	98	49	60	34	61
17	59	51	47	46	48	72	168	93	52	46	34	g700
18	59	51	49	46	61	80	168	118	50	42	34	g200
19	60	47	49	46	52	85	168	91	47	42	34	66
20	60	47	47	44	48	57	168	91	47	40	34	45
21	60	47	47	44	48	96	234	87	45	41	41	45
22	56	47	45	44	61	104	207	85	43	37	39	66
23	56	47	a43	44	85	112	211	85	43	39	58	66
24	59	49	a39	50	71	118	289	82	43	37	74	61
25	59	47	a37	52	80	146	314	80	43	35	55	66
26	60	51	34	52	g404	149	234	78	43	35	39	56
27	57	51	31	52	g130	g206	211	75	43	35	37	45
28	57	60	40	54	89	149	193	73	43	35	34	66
29	57	55	40	54	83	189	193	71	43	35	34	48
30	57	53	42	54	-	a175	198	69	45	33	34	50
31	57	-	42	61	-	a155	-	68	-	33	34	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						1,921	76	48	62.0	3,810		
November.....						1,562	60	47	52.1	3,100		
December.....						1,430	53	31	46.1	2,840		
Calendar year 1939.....						27,786	1,400	31	76.1	55,120		
January.....						1,758	130	42	56.7	3,490		
February.....						2,186	404	48	75.4	4,340		
March.....						2,983	206	54	96.2	5,920		
April.....						5,403	314	112	180	10,720		
May.....						3,607	197	68	116	7,150		
June.....						1,562	77	43	52.1	3,100		
July.....						1,248	60	33	40.3	2,480		
August.....						1,150	74	30	37.1	2,280		
September.....						4,657	1,000	34	165	9,240		
Water year 1939-40.....						29,467	1,000	30	80.5	58,470		

a No gage-height record; discharge interpolated.

d Doubtful gage-height record; discharge computed on basis of records for Virgin River at Virgin.

g Computed from graph based on one or more gage readings daily.

Williams River near Alamo, Ariz.

Location.- Water-stage recorder, lat. $34^{\circ}14'$, long. $113^{\circ}35'$, in SW $\frac{1}{4}$ sec. 2, T. 10 N., R. 13 W., 1.5 miles downstream from Alamo and 6 miles downstream from confluence of Santa Maria and Big Sandy Rivers. Datum of gage is 1,002.95 feet above mean sea level (general adjustment of 1929).

Drainage area.- 4,730 square miles.

Records available.- December 1939 to September 1940.

Extremes.- Maximum discharge during period, 2,700 second-feet Feb. 3 (gage height, 6.75 feet); minimum discharge observed, 4 second-feet on many days July to September.

Flood of Sept. 6, 1939, reached a stage of 39.6 feet, from floodmarks (discharge, 77,000 second-feet, from slope-area measurement made just below confluence of Santa Maria and Big Sandy Rivers). Floodmarks indicate a stage 6 feet higher at an earlier date (date and discharge not determined).

Remarks.- Records poor. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			50	†44	60	100	50	10				4
2			50	46	500	90	50	10				4
3			64	44	1,800	80	150	10		4		†7
4			52	42	1,000	80	100	10				4
5			40	48	1,000	80	80	10		†4		4
6			44	44	800	70	75	9				4
7			40	69	600	60	60	9			4	4
8			40	†76	500	60	†49	9				4
9			38	51	300	50	40	9				4
10			38	76	200	50	40	8				4
11			42	120	150	40	35	8				40
12			40	160	100	40	30	8				15
13			36	160	90	40	30	8			†4	10
14			34	120	80	35	30	7		4		5
15			34	100	80	35	25	7				4
16			38	90	70	30	25	7	5			4
17			38	80	70	30	25	7			4	15
18			36	70	70	30	20	6				150
19			38	60	70	25	20	6				50
20			38	60	70	†25	20	†6				20
21			†38	50	70	25	20	6				10
22			40	50	70	25	15	6				6
23			40	50	70	25	15	6		†4	5	†4
24			40	50	70	25	15	6				4
25			40	50	70	20	15	6				4
26			40	40	70	20	14	6		4	4	4
27			52	40	70	20	13	6				4
28			44	40	70	20	12	6				4
29			42	40	80	20	†11	6				4
30			44	†40	-	20	11	6				4
31			44	40	-	25	-	6				-
Month				Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet			
October.....				-		-	-	-	-			
November.....				-		-	-	-	-			
December.....				1,294		64	34	41.7	2,570			
Calendar year				-		-	-	-	-			
January.....				2,080		160	40	67.1	4,130			
February.....				8,260		1,800	60	284.1	16,360			
March.....				1,295		100	20	41.8	2,570			
April.....				1,095		150	11	36.5	2,170			
May.....				230		10	6	7.4	456			
June.....				150		5	5	5.0	298			
July.....				124		4	4	4.0	246			
August.....				125		5	4	4.0	248			
September.....				404		150	4	13.5	801			
The period.....				-		-	-	-	29,850			

†Discharge measurement.

Note.- No gage-height record Dec. 1-2, 23-26, and channel not connected to gage during low and medium stages Feb. 4 to Sept. 30; discharge computed on basis of record of variations in ground-water level in gage well, 9 discharge measurements, field observation of flow Sept. 18, and records for station at Planet.

Williams River at Planet, Ariz.

Location.- Water-stage recorder, lat. $34^{\circ}16'$, long. $113^{\circ}59'$, in NE $\frac{1}{4}$ sec. 36, T. 11 N., R. 17 W., 1 mile west of Planet and 6 miles upstream from upper end at Lake Havasu when lake is at elevation of 450 feet above mean sea level. Datum of gage is 556.33 feet above mean sea level (general adjustment of 1929).

Drainage area.- 5,140 square miles.

Records available.- January 1913 to December 1915, October 1910 to December 1912 (gage heights only), and October 1928 to September 1940.

Average discharge.- 12 years (1928-40), 147 second-feet.

Extremes.- Maximum discharge during year, 2,600 second-feet Feb. 3 (gage height, 5.13 feet); minimum, 14 second-feet Dec. 28.

1928-40: Maximum discharge, 92,500 second-feet Feb. 7, 1937 (gage height, 13.1 feet), from rating curve extended above 51,000 second-feet on basis of velocity-area study; minimum, 7 second-feet Sept. 30, Oct. 1, 1934.

Floods estimated as greater than 150,000 second-feet occurred about Feb. 21, 1891, and Jan. 20, 1916.

Remarks.- Records good except those during period of no gage-height record, which are fair. Small diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	200	27	24	24	42	53	26	27	23	21	21	21
2	110	25	24	25	42	55	24	26	23	21	21	21
3	80	25	24	27	1,630	49	23	26	23	21	20	21
4	70	25	24	27	1,250	49	34	25	24	21	20	21
5	63	25	24	27	909	45	76	25	24	21	20	20
6	56	25	24	25	546	42	50	25	24	21	19	19
7	49	25	24	25	416	39	37	24	23	21	16	20
8	46	25	24	22	248	39	32	24	23	21	19	20
9	46	25	24	19	163	37	29	25	23	21	19	19
10	49	24	24	19	139	35	29	25	22	21	19	19
11	46	24	25	17	97	35	29	25	22	21	19	22
12	42	25	25	21	76	33	29	25	22	21	19	21
13	42	25	25	35	67	33	29	25	22	21	19	19
14	38	25	25	94	61	34	29	26	22	21	19	17
15	35	22	25	49	53	33	29	26	22	21	18	17
16	33	22	25	60	50	28	29	25	22	21	18	17
17	32	24	27	46	49	28	29	24	22	21	17	23
18	30	24	27	38	45	29	28	23	22	20	17	21
19	29	25	27	32	44	29	28	23	22	20	17	54
20	30	27	27	30	42	31	28	22	22	20	16	21
21	29	27	27	29	42	29	29	22	22	20	25	a20
22	29	27	27	29	42	28	31	22	20	20	23	a19
23	27	25	27	29	44	28	31	22	22	20	21	a19
24	27	24	27	27	44	27	31	22	22	20	21	a19
25	27	22	24	27	44	27	31	22	22	20	21	a18
26	27	22	21	27	42	27	29	22	22	20	21	a17
27	27	22	17	27	39	27	31	22	22	20	21	a17
28	27	22	15	29	39	25	29	22	22	20	21	a18
29	29	22	19	29	44	25	29	22	22	20	21	a18
30	29	24	24	29	-	24	27	22	22	20	21	19
31	29	-	24	32	-	24	-	23	-	20	21	-
Month				Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet			
October.....				1,433		200	27	46.2	2,840			
November.....				731		27	22	24.4	1,450			
December.....				750		27	15	24.2	1,490			
Calendar year 1939.....				117,615		31,500	11	322	233,300			
January.....				976		94	17	31.5	1,940			
February.....				6,349		1,630	39	219	12,590			
March.....				1,047		55	24	33.8	2,080			
April.....				945		76	23	31.5	1,870			
May.....				739		27	22	23.5	1,470			
June.....				672		24	22	22.4	1,330			
July.....				637		21	20	20.5	1,260			
August.....				612		25	16	19.7	1,210			
September.....				617		54	17	20.6	1,220			
Water year 1939-40.....				15,508		1,630	15	42.4	30,750			

Peak discharge.- Jan. 14 (1 a.m.) 111 sec.-ft.; Feb. 3 (2:30 p.m.) 2,600 sec.-ft.

a No gage-height record; discharge computed on basis of seepage record, weather records, and adjacent record.

Santa Maria River near Alamo, Ariz.

Location.- Water-stage recorder, lat. 34°18', long. 113°31', in NE¼SW¼ sec. 9, T. 11 N., R. 12 W., half a mile upstream from confluence with Big Sandy River and 5½ miles upstream from Alamo. Datum of gage is 1,126.6 feet above mean sea level (river profile survey).

Drainage area.- 1,520 square miles.

Records available.- December 1939 to September 1940.

Extremes.- Maximum discharge during period, 262 second-feet Sept. 17 (gage height, 3.20 feet); minimum, 1 second-foot on many days July to September.

Flood of Sept. 6 or 7, 1939, reached a stage of 10.0 feet, from floodmarks (discharge, 15,000 second-feet, by slope-area method). Floodmarks indicate that a stage 2 feet higher occurred probably in 1937 or 1938 (discharge not determined).

Remarks.- Records fair. Several diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				8	9	17	9	6	2	2	1	1
2				8	11	14	7	5	2	2	1	1
3				9	169	19	49	5	2	2	1	1
4				9	120	19	47	5	2	2	1	1
5				10	80	14	30	4	2	2	1	1
6				10	55	11	21	4	2	1	1	1
7				11	30	11	17	3	2	1	1	1
8				11	24	10	11	3	2	1	1	1
9				11	19	10	9	3	2	1	1	1
10				11	11	9	9	2	2	1	1	1
11			7	11	10	10	10	2	2	1	1	6
12				11	10	8	8	2	2	1	1	1
13				10	10	7	7	2	2	1	1	1
14				10	11	8	8	2	2	1	1	1
15				10	11	9	12	2	2	1	1	1
16				10	14	8	17	2	2	1	1	1
17				11	14	7	14	2	2	1	1	13
18				10	12	7	11	2	2	1	1	2
19				10	11	7	11	2	2	1	1	1
20			*7	11	10	8	10	2	2	1	1	1
21				11	11	8	9	2	2	1	1	1
22				10	12	8	8	2	2	1	1	1
23			7	10	17	8	8	2	2	1	1	1
24				10	17	8	8	2	2	1	1	1
25				10	14	8	7	2	2	1	1	1
26				9	12	8	7	2	2	1	1	1
27				9	17	8	6	2	2	1	1	1
28			8	8	17	8	6	2	2	1	1	1
29				8	21	8	7	2	2	1	1	1
30			8	8	-	7	6	2	2	1	1	1
31			*8	8	-	7	-	2	-	1	1	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	-	-	-	-	-
November.....	-	-	-	-	-
December.....	223	8	7	7.2	442
Calendar year	-	-	-	-	-
January.....	303	11	8	9.8	601
February.....	769	169	9	26.5	1,530
March.....	299	19	7	9.6	593
April.....	389	49	6	13.0	772
May.....	82	6	2	2.6	163
June.....	60	2	2	2.0	119
July.....	36	2	1	1.2	71
August.....	31	1	1	1.0	61
September.....	48	13	1	1.6	96
The period.....	-	-	-	-	4,450

*Winter discharge measurement made on this day.

Note.- Discharge Dec. 1-29 computed on basis of 2 discharge measurements and field engineer's observations during construction of station.

Date Creek near Congress, Ariz.

Location.- Water-stage recorder, lat. $34^{\circ}12'$, long. $133^{\circ}08'$, in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 13, T. 10 N., R. 9 W., 0.6 mile upstream from Sawyer dam site, 17 miles west of Congress, and 25 miles upstream from mouth.

Drainage area.- 127 square miles.

Records available.- October 1939 to September 1940.

Extremes.- Maximum discharge during year, 25 second-feet Sept. 3 (gage height, 3.50 feet); no flow during year except on Sept. 3.

Remarks.- Record for Sept. 3 poor; computed on basis of gage-height record, gage height of zero flow, and measured area and estimated mean velocity at peak of flow. Small diversions above station for irrigation.

Monthly discharge, water year October 1939 to September 1940

Sept. 3.....1.0

Month	Mean (second-feet)	Run-off (acre-feet)
September.....	0.03	2.0
Water year 1939-40...	-.003	2.0

Note.- No flow during year except Sept. 3.

Colorado River aqueduct near Parker Dam, Ariz.-Calif.

Location.- Venturi meters at intake pumping plant of Metropolitan Water District of Southern California, lat. 34°19', long. 114°09', in SW¼ sec. 28, T. 3 N., R. 27 E., San Bernardino meridian, on Lake Havasu, 1.8 miles upstream from Parker Dam, which is 156 miles downstream from Boulder Dam.

Records available.- January 1939 to September 1940.

Extremes.- Maximum daily diversion during year, 679 second-feet Mar. 4; no diversion during several periods.

1939-40: Maximum daily diversion, 692 second-feet Mar. 26, 1939; no diversion during several periods.

Remarks.- Records given herein are those of flow diverted to Colorado River aqueduct, by pumping, from Lake Havasu on Colorado River. Figures represent diversion to Colorado River aqueduct, and include evaporation losses and return flow to Colorado River by percolation, mostly from Gene and Copper Basin Reservoirs. Pumped water measured by venturi meters, individually rated by salt-velocity method. Between Jan. 9 and Mar. 13 some water was returned to Lake Havasu from Gene Reservoir and to Colorado River from Copper Basin Reservoir; records of return flow computed from frequent gage-height readings on reservoirs for changes in their contents, and from record of opening and closing of reservoir gates. Figures of monthly diversion have been adjusted for this return surface flow. Records are on basis of Pacific standard time.

Pumping first began Jan. 7, 1939. Water first flowed through San Jacinto tunnel Nov. 1, 1939, and reached the terminal reservoir, Lake Mathews (formerly known as Cajalco Reservoir) on Nov. 2, 1939.

Cooperation.- Records furnished by Metropolitan Water District of Southern California.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	224	277	0	62	0	608	664	0	214	208	0
2	288	361	227	0	0	0	0	603	0	213	198	0
3	441	439	436	0	0	7	18	6	14	216	0	0
4	440	435	433	0	0	679	666	207	434	216	8	8
5	440	429	360	0	0	669	608	11	214	206	425	423
6	424	423	0	143	0	657	0	399	0	0	422	424
7	441	368	176	321	0	650	20	0	0	0	417	421
8	437	421	221	150	0	642	438	0	0	13	228	429
9	399	422	222	0	0	636	424	13	0	412	204	422
10	0	421	222	0	0	619	0	408	10	408	217	412
11	0	423	222	412	0	647	0	0	431	414	221	239
12	0	374	342	455	0	648	0	7	432	332	207	206
13	0	420	212	459	0	648	0	213	425	206	208	196
14	0	421	209	462	0	646	21	198	421	207	199	0
15	0	507	212	463	0	613	661	0	299	206	0	13
16	266	651	45	464	0	0	525	15	210	206	0	412
17	428	645	0	465	0	20	0	436	209	207	0	302
18	339	222	18	466	0	607	0	402	205	208	0	208
19	215	427	215	473	375	0	0	0	208	198	0	209
20	218	649	213	477	478	2	0	0	208	0	0	209
21	65	650	214	373	478	660	0	9	195	7	0	209
22	0	418	214	475	465	608	0	221	0	422	0	211
23	149	223	214	474	450	0	0	218	13	418	0	208
24	131	224	214	475	437	23	0	206	420	406	0	211
25	170	288	213	474	253	665	0	0	401	207	0	209
26	221	291	136	475	33	580	0	0	213	207	0	211
27	222	431	49	474	0	0	0	0	213	207	0	199
28	202	387	248	476	0	30	0	15	213	208	0	0
29	223	430	427	480	0	639	0	449	213	209	0	8
30	184	401	415	473	-	0	22	438	214	208	0	423
31	224	-	37	434	-	24	-	201	-	207	0	-

Month	Observed					Return surface flow from Gene and Copper Basin Reservoirs in acre-feet	Adjusted for return surface flow from Gene and Copper Basin Reservoirs in acre-feet
	Second-foot days	Discharge in second-foot			Run-off in acre-feet		
		Maxi- mum	Mini- mum	Mean			
October.....	6,567	441	0	212	13,030	0	13,030
November.....	12,445	651	223	415	24,680	0	24,680
December.....	6,641	435	0	214	13,170	0	13,170
Calendar year 1939	86,974	692	0	238	172,500	0	172,500
January.....	10,293	480	0	332	20,420	33,890	-13,470
February.....	3,031	478	0	105	6,010	7,780	-1,770
March.....	11,619	679	0	375	23,050	0	23,050
April.....	4,011	666	0	134	7,960	0	7,960
May.....	5,338	664	0	172	10,590	0	10,590
June.....	5,815	434	0	194	11,530	0	11,530
July.....	6,785	422	0	219	13,460	0	13,460
August.....	3,162	425	0	102	6,270	0	6,270
September.....	6,420	429	0	214	12,730	0	12,730
Water year 1939-40	82,127	679	0	224	162,900	41,670	121,200

Note.- Contents in regulation reservoirs on Sept. 30, 1940: Lake Mathews, 73,670 acre-feet; Gene and Copper Basin Reservoirs (combined), 28,730 acre-feet.

Diversion for Colorado River Indian Reservation, near Parker, Ariz.

Location.- Pump house on left bank of Colorado River, lat. $34^{\circ}09'$, long. $114^{\circ}18'$, in sec. 2, T. 9 N., R. 20 W., Gila and Salt River meridian, on Colorado River Indian Reservation, 1 mile southwest of Parker (revised) and 17 miles downstream from Parker Dam.

Records available.- January 1915 to December 1938 (calendar-year discharge), January 1937 to September 1940 (monthly discharge).

Remarks.- Discharge computed from records of pump operation checked by current-meter and Parshall-flume measurements. Water is pumped to canals for irrigation of lands in Colorado River Indian Reservation, which lies on east side of Colorado River and extends from Parker on the north to a point near Ehrenberg on the south.

Cooperation.- Records furnished by Office of Indian Affairs.

Monthly diversion, in second-feet, water year October 1939 to September 1940

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	85	0	4.0	248
November.....	0	0	0	0
December.....	45	0	2.6	159
Calendar year 1939....	150	0	34.6	25,030
January.....	80	0	7.1	436
February.....	80	0	14.3	823
March.....	85	0	32.3	1,980
April.....	150	0	78.5	4,670
May.....	148	0	69.7	4,290
June.....	146	0	73.0	4,340
July.....	154	0	130	7,990
August.....	155	0	132	8,110
September.....	146	0	46.9	2,790
Water year 1939-40....	155	0	49.4	35,040

Palo Verde canal near Blythe, Calif.

Location.- Water-stage recorder, lat. $33^{\circ}43'$, long. $114^{\circ}31'$, in SW $\frac{1}{4}$ sec. 19, T. 5 S., R. 24 E., San Bernardino meridian, below settling basin, three-quarters of a mile downstream from intake on Colorado River and $9\frac{1}{4}$ miles northeast of Blythe.

Records available.- January 1922 to December 1923, January 1925 to September 1940.

Remarks.- Figures given herein are those of flow diverted from Colorado River less flow returned to river by canal wasteways and by drainage canal, and represent net diversion. Flow diverted from river computed on basis of gage heights and daily current-meter measurements; flow in canal wasteways and drainage canal computed on basis of occasional current-meter measurements.

Canal diverts water from right bank of Colorado River in NE $\frac{1}{4}$ sec. 19, T. 5 S., R. 24 E., San Bernardino meridian, 10 miles northeast of Blythe, for irrigation of lands in Palo Verde irrigation district in vicinity of Blythe and Ripley, Riverside County, Calif.

Cooperation.- Records furnished by Palo Verde Irrigation District.

Monthly diversion, in acre-feet, water year October 1939 to September 1940

Month	Total diversion	Return flow to river from canal wasteways and drainage canal	Net diversion
October.....	15,900	9,800	6,100
November.....	15,600	5,900	9,700
December.....	13,500	7,260	6,240
Calendar year 1939..	253,520	68,460	185,060
January.....	16,900	8,600	8,300
February.....	18,500	6,600	11,900
March.....	25,600	5,300	20,300
April.....	26,700	3,500	23,200
May.....	32,300	4,700	27,600
June.....	38,200	7,500	30,700
July.....	42,000	8,300	33,700
August.....	42,200	8,400	33,800
September.....	34,400	7,000	27,400
Water year 1939-40..	321,600	82,860	238,740

Note.- Return flow to the river through canal wasteways consists of excess water in the canals at lower end of project averaging about 20 sec-ft. Drainage canal flow consists of surface drainage from project and some underground seepage flow originating in canals, irrigated areas, and river.

Gila River near Gila, N. Mex.

Location.- Water-stage recorder, lat. 33°04'05", long. 108°32'10", in SE¼SW¼ sec. 19, T. 14 S., R. 16 W., at Hooker dam site, 1 mile upstream from Mogollon Creek and 7 miles northeast of Gila. Datum of gage is 4,655.8 feet above mean sea level (river-profile survey).

Drainage area.- 1,870 square miles (revised).

Records available.- April to December 1914 (at site 3 miles upstream and about a quarter of a mile downstream from Turkey Creek) and October 1930 to September 1940 in reports of Geological Survey. April to December 1914 and November 1927 to December 1928 (at site 3 miles upstream) and January 1929 to December 1931 in reports of State engineer.

Average discharge.- 12 years (1928-40), 126 second-feet.

Extremes.- Maximum discharge during year, 2,370 second-feet Oct. 8 (gage height, 7.72 feet), from rating curve extended above 1,100 second-feet by logarithmic plotting; minimum daily, 34 second-feet July 12.
1930-40: Maximum discharge, 6,110 second-feet Feb. 16, 1937 (gage height, 10.12 feet), from rating curve extended above 1,100 second-feet; minimum daily, 21 second-feet June 22, 27, 1934, July 14, 1939.

Remarks.- Records good. One small diversion above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	53	76	90	66	82	500	202	118	58	95	61	49
2	49	72	82	66	1,470	460	202	112	57	67	55	49
3	48	74	76	67	1,020	385	192	110	54	55	58	47
4	47	74	74	67	594	332	182	112	51	49	68	45
5	45	75	72	81	428	276	174	114	49	46	86	44
6	46	75	71	107	335	246	184	118	47	67	102	209
7	100	78	70	98	279	233	172	117	46	49	120	110
8	1,830	75	70	92	240	224	169	112	44	44	222	83
9	780	82	70	88	215	222	148	107	42	39	90	72
10	413	94	70	85	186	238	146	109	40	37	88	67
11	246	82	68	85	170	439	146	106	38	36	95	71
12	182	78	70	102	159	572	160	100	38	34	89	162
13	146	78	67	137	153	420	148	95	38	35	113	104
14	123	78	67	125	144	293	142	89	38	35	194	81
15	109	78	66	104	141	243	146	85	38	36	194	72
16	102	78	66	92	139	213	150	83	37	42	107	62
17	95	75	66	88	132	194	153	89	39	38	81	60
18	92	75	66	85	127	186	153	88	38	41	75	60
19	85	75	66	85	122	188	142	89	37	47	72	60
20	83	75	65	82	117	190	132	85	36	115	128	55
21	82	74	63	81	112	198	130	78	38	92	144	51
22	81	74	65	81	125	220	135	85	42	55	128	88
23	79	74	67	81	777	233	153	94	50	47	100	79
24	78	75	66	79	780	248	170	86	57	47	86	68
25	83	78	83	78	558	248	159	78	58	45	104	66
26	89	74	83	78	520	250	144	76	49	63	79	61
27	85	71	75	75	544	253	141	75	48	57	68	61
28	83	70	68	76	549	256	137	70	48	57	60	61
29	81	98	63	75	536	253	132	67	66	79	55	63
30	79	101	63	75	-	233	125	63	96	88	51	113
31	76	-	66	74	-	215	-	61	-	88	47	-
Month					Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet			
October.....					5,570	1,830	45	180	11,050			
November.....					2,536	101	70	77.9	4,630			
December.....					2,174	90	63	70.1	4,510			
Calendar year 1939.....					36,541	1,830	21	100	72,470			
January.....					2,655	137	66	85.6	5,270			
February.....					10,754	1,470	82	371	21,330			
March.....					8,661	572	186	279	17,180			
April.....					4,649	202	125	155	9,220			
May.....					2,867	118	61	92.5	5,690			
June.....					1,417	96	36	47.2	2,810			
July.....					1,725	115	34	55.6	3,420			
August.....					3,020	222	47	97.4	5,990			
September.....					2,273	209	44	75.8	4,510			
Water year 1939-40.....					48,101	1,830	34	131	95,410			

Peak discharge.- Oct. 8 (4 p.m.) 2,370 sec.-ft.; Feb. 2 (10 a.m.) 2,260 sec.-ft.; Feb. 23 (1 p.m.) 1,230 sec.-ft.; Aug. 7 (12 p.m.) 755 sec.-ft.; Sept. 12 (1 a.m.) 603 sec.-ft.

Gila River near Red Rock, N. Mex.

Location.- Water-stage recorder, lat. 32°45', long. 108°40', in sec. 23, T. 18 S., R. 18 W., 4 miles northeast of Red Rock and 11 miles downstream from Mangus Creek.

Drainage area.- 2,860 square miles (revised).

Records available.- May 1908 to December 1914, October 1930 to September 1940 in reports of Geological Survey. May 1908 to December 1931 in reports of State engineer.

Average discharge.- 22 years (1909-10, 1912-14, 1918-24, 1927-40), 177 second-feet.

Extremes.- Maximum discharge during year, 15,300 second-feet Oct. 8 (gage height, 15.42 feet), from rating curve extended above 4,700 second-feet by logarithmic plotting; minimum daily, 27 second-feet June 15, 18.
1930-40: Maximum discharge, that of Oct. 8, 1939; minimum daily, 6.0 second-feet July 12, 1939.

Remarks.- Records fair except those for periods of doubtful or no gage-height record, which are poor. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	50	97	115	99	115	605	290	150	64	116	69	40
2	51	98	110	101	3,890	550	278	130	59	105	128	71
3	52	97	108	104	3,240	461	263	119	53	88	135	64
4	48	98	105	104	1,290	422	a240	111	49	80	101	70
5	41	96	102	111	804	394	a220	109	44	74	139	165
6	44	96	100	135	670	349	a220	111	41	66	133	143
7	1,100	94	99	137	535	316	a210	113	38	65	214	171
8	6,180	94	99	131	441	290	a200	110	36	63	361	131
9	1,430	99	98	130	349	278	a180	96	d33	55	197	112
10	449	104	97	124	a330	262	162	87	31	52	167	88
11	290	101	95	121	298	362	a160	93	a30	48	171	78
12	230	97	95	125	263	726	a160	94	a29	a45	171	133
13	196	96	95	142	244	610	153	105	a28	a40	206	126
14	173	94	96	153	234	457	156	97	a28	a40	623	105
15	159	93	96	141	223	390	145	93	a27	a70	596	88
16	151	94	94	133	217	358	153	93	a27	33	d260	80
17	142	94	94	128	208	334	164	107	a28	32	a200	78
18	140	96	94	124	196	322	164	106	a31	38	a150	70
19	151	92	95	122	186	310	168	116	d33	37	a120	70
20	126	92	95	122	180	304	153	113	36	39	a110	73
21	117	91	95	a120	173	304	150	106	39	36	171	71
22	111	93	96	a120	175	322	138	109	257	41	184	86
23	107	96	97	a120	1,130	337	154	116	134	60	148	101
24	106	98	99	a120	1,460	343	192	113	100	63	113	100
25	100	101	110	a120	719	340	180	111	93	28	94	83
26	130	101	113	a120	575	343	171	108	88	31	121	65
27	108	100	108	115	570	346	164	98	83	32	d70	59
28	102	99	105	114	590	343	173	95	79	32	61	66
29	99	114	101	114	622	331	177	84	77	57	42	97
30	97	117	98	113	-	313	166	73	99	60	39	115
31	95	-	99	110	-	292	-	66	-	65	39	-
Month					Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet			
October.....					12,414	6,190	41	400	24,620			
November.....					2,932	117	91	97.7	5,820			
December.....					3,102	115	94	100	6,150			
Calendar year 1939.....					52,535.8	6,190	6.0	144	104,200			
January.....					3,773	153	99	122	7,480			
February.....					19,927	3,590	115	637	39,520			
March.....					11,734	726	273	379	23,270			
April.....					5,484	290	138	183	10,880			
May.....					3,231	150	66	104	6,410			
June.....					1,794	257	27	59.8	3,560			
July.....					1,681	116	28	54.2	3,330			
August.....					5,223	596	39	168	10,360			
September.....					2,801	171	40	93.4	5,560			
Water year 1939-40.....					74,096	6,190	27	202	147,000			

Peak discharge.- Oct. 7 (11 p.m.) 4,960 sec.-ft.; Oct. 8 (7 a.m.) 15,300 sec.-ft.; Feb. 2 (1 p.m.) 7,930 sec.-ft.; Feb. 23 (4 p.m.) 2,750 sec.-ft.; June 22 (8 p.m.) 3,030 sec.-ft.; Aug. 15 (4 a.m.) 2,520 sec.-ft.

a No gage-height record; discharge computed on basis of records for stations near Gila and below Blue Creek.

d Doubtful gage-height record; discharge computed on basis of records for stations near Gila and below Blue Creek.

Gila River below Blue Creek, near Virden, N. Mex.

Location.— Water-stage recorder, lat. $32^{\circ}39'$, long. $108^{\circ}51'$, in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 18, T. 19 S., R. 19 W., at head of canyon, just downstream from ranch formerly known as Fuller ranch, $\frac{1}{2}$ miles downstream from Blue Creek, 10 miles east of Virden, and 16 miles east of Duncan, Ariz. Datum of gage is 3,875 feet above mean sea level (from river-profile map).

Drainage area.— 3,220 square miles (revised), excluding that of Animas Basin.

Records available.— June 1931 to September 1940. May 1914 to September 1915, at site 6 miles downstream, above intake of Sunset canal. January 1923 to September 1926, at site 8 miles downstream, below intake of Sunset canal. October 1926 to September 1931, at Virden Bridge, $\frac{1}{2}$ miles downstream.

Extremes.— Maximum discharge during year, 11,000 second-feet Sept. 6 (gage height, 15.88 feet); minimum, 6 second-feet July 20, 1931-40: Maximum discharge, that of Sept. 6, 1940; minimum, 1 second-foot July 14, 1934.

Remarks.— Records good. Diversions above and below station for irrigation. Station is above all diversions for Duncan Valley. During the year, 39 discharge measurements were made.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	41	96	122	104	109	633	290	131	56	73	78	78
2	44	96	115	104	2,330	579	276	118	53	86	84	48
3	46	94	111	107	2,610	517	260	105	47	74	150	42
4	46	96	109	109	982	466	231	98	44	62	100	39
5	41	96	107	117	700	421	212	90	36	58	121	121
6	42	96	104	184	594	375	212	87	29	52	106	1,120
7	1,500	96	102	178	493	350	215	88	27	45	116	152
8	4,170	96	104	147	433	331	206	90	24	42	335	122
9	1,500	102	102	142	358	320	190	88	24	32	177	105
10	598	109	102	137	349	320	174	76	21	26	109	90
11	402	113	102	129	308	358	156	71	20	19	103	74
12	308	111	100	125	284	589	153	74	19	17	163	82
13	247	107	98	142	254	584	146	76	16	14	129	117
14	209	107	100	158	236	488	144	86	16	14	432	103
15	187	107	100	150	222	454	142	84	15	55	445	87
16	172	107	100	139	209	395	137	81	13	14	267	82
17	161	107	98	132	196	362	153	90	12	12	158	72
18	150	104	96	127	187	339	158	101	12	10	116	64
19	144	102	94	125	175	327	161	109	10	9	105	66
20	134	96	92	122	163	516	142	103	10	8	92	68
21	127	94	92	122	155	312	135	100	14	17	114	62
22	120	92	92	122	152	316	127	105	47	16	137	86
23	115	96	92	120	515	339	124	116	270	16	118	80
24	113	100	92	117	1,260	335	179	114	110	50	81	84
25	114	102	109	117	840	331	181	112	81	43	73	70
26	133	100	113	115	674	327	168	107	84	31	76	59
27	115	100	113	111	659	331	149	96	78	27	71	53
28	107	100	109	111	659	331	146	82	67	31	57	51
29	102	113	104	109	654	316	153	74	61	113	44	64
30	98	125	100	107	-	305	146	65	65	81	34	126
31	96	-	102	107	-	294	-	57	-	75	28	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	11,182	4,170	41	361	22,180
November.....	3,060	125	92	102	6,070
December.....	3,176	122	92	102	6,300
Calendar year 1939.....	47,368	4,170	2	130	93,960
January.....	3,936	184	104	127	7,810
February.....	16,790	2,610	109	579	33,300
March.....	12,041	653	294	388	23,880
April.....	5,266	290	124	176	10,440
May.....	2,874	131	57	92.7	5,700
June.....	1,361	270	10	46.0	2,740
July.....	1,222	113	8	39.4	2,420
August.....	4,219	445	28	136	8,370
September.....	3,467	1,120	39	116	6,880
Water year 1939-40.....	68,614	4,170	8	187	136,100

Peak discharge.— Oct. 7 (6:45 p.m.) 4,850 sec.-ft.; Oct. 7 (11:50 p.m.) 10,000 sec.-ft.; Oct. 8 (3:15 p.m.) 6,630 sec.-ft.; Feb. 2 (9 p.m.) 4,580 sec.-ft.; Sept. 6 (1 a.m.) 11,000 sec.-ft.

Gila River at New Mexico-Arizona State line, near Virden, N. Mex.
(Formerly published as Gila River at New Mexico-Arizona State line, near Duncan, Ariz.)

Location.- Water-stage recorder, lat. $32^{\circ}41'$, long. $109^{\circ}03'$, in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 3, T. 9 S., R. 32 E., Gila and Salt River meridian (NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 6, T. 19 S., R. 21 W., New Mexico meridian projected west of State line), about 790 feet downstream from State line, 3 miles west of Virden, and 4 miles southeast of Duncan, Ariz.

Drainage area.- 3,360 square miles.

Records available.- May 1939 to September 1940.

Extremes.- Maximum discharge during year, 7,700 second-feet Oct. 7, from rating curve extended above 1,740 second-feet by logarithmic plotting; maximum gage height, 7.47 feet Sept. 6; minimum daily discharge, 2.3 second-feet Aug. 31.
1939-40: Maximum discharge, that of Oct. 7, 1939; no flow July 8, 10-14, 16, 1939.

Remarks.- Records good except those for Oct. 7-9, Feb. 3, June 23, Aug. 3, 8, 14, 15, Sept. 6, 7, which are fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.7	86	80	96	102	691	240	80	11	23	23	18
2	3.3	89	78	89	1,420	632	230	70	11	29	49	9.6
3	3.9	86	75	89	2,970	570	230	56	11	33	149	5.4
4	3.9	83	70	99	1,300	504	200	52	11	24	70	5.4
5	3.9	80	73	99	902	466	155	52	9.6	15	73	6.2
6	4.8	78	78	127	769	408	143	49	8.2	11	63	1,400
7	1,040	68	89	135	632	372	147	54	7.0	8.6	31	160
8	5,620	58	93	123	540	354	147	56	6.6	8.2	234	112
9	2,430	58	89	123	465	327	127	47	7.0	7.0	115	80
10	776	56	93	119	354	327	112	38	7.4	6.6	39	58
11	456	58	102	112	322	327	89	26	6.6	5.8	96	31
12	327	63	109	112	283	534	86	25	5.8	5.0	86	49
13	256	73	102	119	256	678	96	32	5.8	4.7	56	69
14	220	63	93	135	240	576	86	28	6.6	4.5	359	47
15	196	56	89	151	215	498	80	29	5.4	27	418	33
16	173	52	86	147	200	426	70	22	5.8	18	168	25
17	147	52	78	135	181	372	70	20	5.8	4.7	93	17
18	127	58	80	112	178	322	68	28	4.7	4.5	63	18
19	119	54	76	115	164	261	68	41	4.7	4.2	41	15
20	102	50	76	112	143	240	68	50	4.7	6.6	28	20
21	83	41	76	115	139	225	63	45	7.8	4.2	21	33
22	86	45	66	115	160	235	86	54	6.6	3.4	35	39
23	89	47	63	119	363	300	93	68	155	3.7	69	41
24	70	60	73	123	1,380	327	109	63	68	4.7	57	50
25	70	63	112	123	1,000	300	123	73	25	9.6	30	39
26	83	60	115	123	769	283	123	78	32	6.6	33	26
27	89	63	93	105	750	272	115	68	66	22	23	21
28	102	58	68	105	750	272	102	26	36	16	8.2	23
29	123	66	58	96	717	266	93	20	24	70	8.2	32
30	119	76	52	89	-	261	86	15	18	69	2.4	148
31	99	-	52	99	-	250	-	13	-	28	2.3	-
Month					Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet			
October.....					13,024.5	5,620	2.7	420	25,830			
November.....					1,900	89	41	63.3	3,770			
December.....					2,535	115	52	81.8	5,030			
Calendar year					-	-	-	-	-			
January.....					3,561	151	89	115	7,060			
February.....					17,687	2,970	102	610	35,080			
March.....					11,866	691	225	383	23,540			
April.....					3,503	240	63	117	6,960			
May.....					1,372	80	13	44.3	2,720			
June.....					574.1	155	4.7	19.1	1,140			
July.....					507.6	89	3.4	16.4	1,010			
August.....					2,539.9	418	2.3	81.9	5,040			
September.....					2,630.6	1,400	5.4	57.7	5,220			
Water year 1939-40.....					61,700.7	5,620	2.3	169	122,400			

Peak discharge.- Oct. 7 (11:30 p.m.) 7,700 sec.-ft.; Oct. 8 (8:40 a.m.) 7,090 sec.-ft.; Oct. 8 (10:30 p.m.) 6,900 sec.-ft.; Sept. 6 (7 a.m.) 6,540 sec.-ft.
a No gage-height record; discharge interpolated.

Diversions from Gila River in Duncan Valley, N. Mex.-Ariz.

Duncan Valley lies along Gila River in Greenlee County, Ariz., and Hidalgo County, N. Mex. The part in New Mexico is also known as Virden Valley. The valley extends from a point in New Mexico about 8 miles east of the State line westward to the vicinity of Guthrie, Ariz. Ten canals, listed in the following tables according to their position from east to west, and six pumps divert water from Gila River for irrigation in the valley. The first four canals listed divert in New Mexico, the others in Arizona. The intake of Sunset canal, at the eastern end of the valley, is 4 miles downstream from the station on Gila River below Blue Creek, near Virden, N. Mex.; the intake of York canal, at the western end, is about 5 miles upstream from the station on Gila River near Clifton, Ariz.

Records of daily and monthly diversions are available for Sunset and Moddle canals for 1914-15 and 1922-31; for Valley and Colmenero canals for 1914-15 and 1923-31; and for Duncan canal for 1923-28. Discharge measurements are available for York canal for 1914-15 and 1923-31.

Records of daily diversion since January 1936, except for Sunset, Moddle, and Shriver canals for 1939-40, have been collected by Gila Water Commissioner, appointed by United States District Court for Arizona. Water-stage recorders and rectangular sharp-crested weirs were used by the water commissioner to obtain records of diversion by the canals, and rated pumps were used to obtain records of pumped water. See pp. 235-240 for records of Sunset, Moddle, and Shriver canals for 1940.

The following tabulations of the annual diversions by each canal and the combined monthly diversions by the canals as a group have been compiled and furnished by the Gila Water Commissioner.

Annual diversions, in acre-feet, from Gila River by canals and pumps in Duncan Valley, N. Mex.-Ariz.

Canal	Water year 1939-40	Calendar year 1939
Sunset.....	18,100	17,140
Moddle.....	12,340	10,240
Shriver.....	903	1,230
Valley.....	4,720	3,460
Duncan.....	585	504
Black & McClesky.....	933	746
Colmenero.....	1,150	1,050
Sexton.....	470	321
R. Sexton.....	258	273
York canal.....	509	536
Miscellaneous direct pumping.....	74	100
Total diversions.....	40,040	35,600

Combined monthly diversion, in second-feet, from Gila River by canals and pumps in Duncan Valley, N. Mex.-Ariz., during water year October 1939 to September 1940.

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	62.3	0	35.4	2,170
November.....	61.1	17.2	44.8	2,660
December.....	67.3	11.9	32.9	2,030
Calendar year 1939.....	132	0	49.1	35,600
January.....	17.4	0	61.3	377
February.....	79.5	1.9	23.5	1,400
March.....	134	48.6	92.4	5,690
April.....	125	91.7	10.9	6,520
May.....	112	54.8	88.1	5,420
June.....	89.0	14.4	45.2	2,580
July.....	93.5	18.1	42.2	2,600
August.....	110	30.6	77.0	4,740
September.....	99.2	28.9	64.7	3,850
Water year 1939-40.....	134	0	55.3	40,040

Gila River near Clifton, Ariz.

Location.- Water-stage recorder, lat. 32°58', long. 109°18', in SE¼ sec. 25, T. 5 S., R. 29 E., at highway bridge, 7 miles south of Clifton and 5 miles upstream from San Francisco River. Datum of gage is 3,335.3 feet above mean sea level (subject to correction for general adjustment of 1929).

Drainage area.- 4,040 square miles.

Records available.- March 1929 to October 1933, May 1935 to September 1940. November 1910 to July 1918, at site 4 miles upstream, published as Gila River at Guthrie, Ariz.

Average discharge.- 10 years (1928-33, 1935-40), 165 second-feet.

Extremes.- Maximum discharge during year, 6,300 second-feet Oct. 8 (gage height, 12.05 feet); minimum, 18 second-feet June 18.

1922-40: Maximum discharge, about 11,500 second-feet Aug. 26, 1934 (gage height, 16.0 feet, from floodmarks), from rating curve extended above 6,000 second-feet; minimum not determined, probably occurred in 1934; minimum recorded, 9 second-feet July 8, 1939.

Remarks.- Records good except those for periods of no gage-height record or wholly or partly estimated gage-height record, which are fair. Diversions for irrigation above station, which is below all diversions from Gila River above San Francisco River. During the year 52 discharge measurements were made.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	69	118	78	120	568	242	81	26	a45	c70	38
2	25	66	120	104	746	528	234	77	a26	a40	c230	a30
3	24	70	111	104	2,900	490	223	72	a25	a38	322	a30
4	24	70	106	103	1,370	440	213	65	a24	a35	243	a25
5	23	73	104	103	804	391	188	a55	a24	33	210	175
6	23	77	106	106	610	354	154	a50	a23	29	99	1,160
7	590	75	103	133	509	312	137	a50	23	25	77	230
8	4,510	69	101	139	436	270	149	47	22	25	112	c120
9	2,580	65	95	123	401	237	147	49	21	26	200	c95
10	908	63	86	122	357	226	129	42	21	26	e100	80
11	422	64	80	118	315	229	111	37	21	26	c270	a70
12	c300	69	87	114	288	288	92	32	21	26	c370	a60
13	c245	74	84	114	273	548	90	29	21	27	c270	a55
14	c200	75	84	120	248	509	95	29	20	28	c330	a50
15	186	70	80	141	234	440	90	29	20	33	c310	a45
16	151	68	81	139	223	387	92	29	20	34	c280	a40
17	125	63	81	133	206	328	87	28	20	29	c130	39
18	106	57	80	123	191	282	84	28	19	26	c110	40
19	95	64	77	120	181	242	80	29	20	26	86	58
20	90	69	77	120	165	223	77	37	20	26	70	35
21	77	64	72	120	154	206	78	43	20	45	64	308
22	65	64	69	122	149	203	73	47	44	28	67	306
23	65	60	65	120	160	216	82	54	201	25	72	80
24	65	64	66	120	899	323	93	63	190	175	80	73
25	65	77	82	122	885	312	103	65	61	a50	68	74
26	65	82	109	120	702	279	106	69	51	a35	95	65
27	68	82	104	120	632	282	111	70	64	a25	48	53
28	69	86	99	116	610	273	107	63	49	72	44	49
29	75	104	84	114	589	262	99	44	a52	113	a40	79
30	84	103	75	114	-	265	88	33	a48	401	a35	226
31	77	-	70	111	-	248	-	29	-	c85	a30	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	11,426	4,510	23	369	22,680
November.....	2,156	104	57	71.9	4,280
December.....	2,756	120	65	88.9	5,470
Calendar year 1939.....	44,028	4,510	11	121	87,530
January.....	3,656	141	76	118	7,250
February.....	15,377	2,900	120	530	30,500
March.....	10,161	568	203	328	20,150
April.....	3,654	242	73	122	7,250
May.....	1,475	81	26	47.6	2,930
June.....	1,217	201	19	40.6	2,410
July.....	1,656	401	25	53.4	3,260
August.....	4,522	370	30	145	8,970
September.....	3,788	1,160	25	126	7,510
Water year 1939-40.....	61,844	4,510	19	169	122,700

Peak discharge.- Oct. 8 (6 a.m.) 6,300 sec.-ft.; Oct. 9 (7:30 a.m.) 3,840 sec.-ft.; Feb. 3 (7 a.m.) 3,150 sec.-ft.; Sept. 6 (2:30 p.m.) 2,920 sec.-ft.

a No gage-height record; discharge computed on basis of field estimates, weather records, and records for Blue Creek near Virden, N. Mex., Bonita Creek near Solomonsville, and San Francisco River at Clifton.

c Computed on basis of gage-height record wholly or partly estimated and of records for stations named above.

Gila River below Bonita Creek, near Solomonsville, Ariz.

Location.- Water-stage recorder, lat. 32°53', long. 109°30', in SE $\frac{1}{4}$ sec. 21, T. 6 S., R. 28 E., unsurveyed, three-eighths of a mile downstream from Bonita Creek and 10 miles northeast of Solomonsville.

Drainage area.- 7,900 square miles.

Records available.- February 1932 to October 1933, May 1935 to September 1940. April 1914 to September 1932, at site 3 miles downstream and below intake of Brown canal, published as Gila River near Solomonsville, Ariz.

Average discharge.- 17 years (1921-33, 1935-40), 379 second-feet (includes diversion in Brown canal during period 1921-32).

Extremes.- Maximum discharge during year, 9,840 second-feet Sept. 6 (gage height, 15.24 feet); minimum, 34 second-feet June 18.

1914-40: Maximum discharge, about 100,000 second-feet Jan. 19, 1916, by slope-area method; minimum not determined, probably occurred in 1934; minimum recorded, 27 second-feet July 14, 1939.

Remarks.- Records good. Diversions for irrigation above station, which is above all diversions for irrigation in Safford Valley. During the year 52 discharge measurements were made.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	75	138	195	157	195	852	397	187	86	196	200	347
2	75	131	195	172	1,880	529	333	170	77	a150	375	175
3	70	131	184	180	4,360	782	379	153	77	a130	850	159
4	68	131	180	180	2,330	674	364	148	75	a110	575	134
5	68	131	172	184	1,300	610	333	134	66	a90	542	129
6	68	135	165	231	944	568	300	129	61	79	309	3,370
7	478	135	168	257	829	515	277	124	57	68	255	1,220
8	5,250	131	168	257	686	475	277	116	55	57	234	456
9	3,240	131	165	234	610	444	277	116	49	53	287	319
10	1,200	138	161	221	527	422	255	111	47	55	222	262
11	500	138	151	212	483	452	237	108	45	55	198	213
12	400	138	154	208	441	511	216	101	43	59	631	178
13	350	135	157	199	411	784	201	96	43	57	376	140
14	274	138	157	204	393	784	207	91	43	55	2,030	191
15	249	138	157	216	372	674	198	93	45	54	2,010	213
16	225	135	157	229	364	568	193	93	47	184	1,360	167
17	204	135	154	225	340	503	190	93	39	86	632	129
18	187	128	151	212	323	460	190	93	51	68	478	129
19	168	128	151	204	309	430	181	98	45	57	316	162
20	161	131	151	199	290	404	170	103	47	47	580	121
21	151	135	151	204	274	386	167	111	49	53	364	196
22	135	131	151	204	271	379	156	124	61	76	290	607
23	135	125	151	199	326	388	225	145	280	49	296	349
24	138	138	154	199	1,020	471	213	151	657	120	462	260
25	138	157	184	199	1,260	471	216	137	268	202	513	245
26	151	161	229	195	968	456	216	137	164	364	375	196
27	138	161	221	191	897	452	207	134	129	335	265	162
28	138	161	204	187	874	452	207	129	145	253	207	151
29	139	187	195	187	852	444	201	113	269	255	173	188
30	144	204	176	187	-	437	196	101	407	477	148	594
31	144	-	165	184	-	418	-	89	-	229	137	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						14,760	5,250	68	476	29,288		
November.....						4,236	204	125	141	8,400		
December.....						5,274	229	151	170	10,460		
Calendar year 1939.....						86,814	5,250	28	238	172,200		
January.....						6,317	257	157	204	12,530		
February.....						24,136	4,360	195	832	47,870		
March.....						16,476	852	379	531	32,680		
April.....						7,237	397	156	241	14,350		
May.....						3,728	187	89	120	7,390		
June.....						3,527	657	39	118	7,000		
July.....						4,123	477	133	83	8,180		
August.....						15,490	2,030	137	500	30,720		
September.....						11,165	3,370	121	372	22,150		
Water year 1939-40.....						116,469	5,250	39	318	231,000		

Peak discharge.- Oct. 8 (8:30 a.m.) 8,070 sec.-ft.; Oct. 9 (11 a.m.) 4,360 sec.-ft.; Feb. 3 (8 a.m.) 4,330 sec.-ft.; Aug. 14 (10:30 a.m.) 3,820 sec.-ft.; Aug. 15 (12 p.m.) 3,730 sec.-ft.; Sept. 6 (3 p.m.) 9,840 sec.-ft.

a No gage-height record; discharge computed on basis of records for Gila River near Clifton and San Francisco River at Clifton.

Diversions from Gila River in Safford Valley, Ariz.

Safford Valley lies along Gila River in Graham County, Ariz., extending from the vicinity of Bonita Creek on the east to San Carlos Indian Reservation on the west. Twelve canals, listed in the following table according to their position from east to west, and two pumps divert water from Gila River for irrigation in the valley. Intake of Brown canal, at the eastern end of the valley, is about 2 miles downstream from the station on Gila River below Bonita Creek, near Solomonsville; intake of Colvin-Jones canal, at the western end, is about 20 miles upstream from station on Gila River near Calva.

Records of monthly diversion for all the canals except Fourness, Fort Thomas, and Colvin-Jones are available for 1914-15; records of daily and monthly diversions for all the canals except Colvin-Jones are available for 1920-31; records for Brown canal are available also for water year 1931-32. (Tidwell canal published as Michelana canal in records for 1914-15 and 1920-31.) Records of monthly diversions for all canals are available for 1936-40.

Records of daily diversions since January 1936 have been collected by the Gila Water Commissioner, appointed by United States District Court for Arizona. Water-stage records with Parshall flumes or weirs were used by the water commissioner to obtain records of diversion by the canals, and rated pumps were used to obtain records of pumped water.

The following tabulation of annual diversion by each canal and combined monthly diversion by the canals as a group have been compiled and furnished by Gila Water Commissioner.

Annual diversions, in acre-feet, from Gila River by canals and pumps in Safford Valley, Ariz.

Canal	Water year 1939-40	Calendar year 1939
Brown.....	2,220	1,900
Tidwell.....	1,530	1,170
Fourness.....	434	374
San Jose.....	11,910	9,200
Montezuma.....	15,470	11,640
Union.....	23,780	17,970
Graham.....	16,160	10,650
Smithville.....	8,840	7,020
Dodge-Nevada.....	8,370	5,720
Curtis.....	6,700	4,950
Fort Thomas.....	10,800	7,940
Colvin-Jones.....	523	249
Miscellaneous direct pumping.....	36	24
Total.....	106,800	78,820

Combined monthly diversion, in second-feet, from Gila River by canals in Safford Valley, Ariz., during water year October 1939 to September 1940.

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	304	56.3	134	8,240
November.....	133	71.3	108	6,410
December.....	246	68.8	166	10,200
Calendar year 1939.....	421	0	109	78,820
January.....	36.5	.3	14.6	899
February.....	173	29.7	109	6,060
March.....	436	166	329	20,220
April.....	421	154	277	16,470
May.....	115	57.3	89.2	5,490
June.....	237	37.5	67.0	3,990
July.....	346	31.8	86.8	5,340
August.....	414	77.3	218	13,390
September.....	281	91.4	169	10,060
Water year 1939-40.....	436	.3	147	106,800

Gila River at Calva, Ariz.

Location.- Water-stage recorder, lat. 33°11', long. 110°13', in sec. 5, T. 3 S., R. 21 E., unsurveyed, on San Carlos Indian Reservation, at railroad bridge at head of San Carlos Reservoir, 1½ miles northwest of Calva. Datum of gage is 2,514.77 feet above mean sea level (general adjustment of 1929).

Drainage area.- 11,490 square miles.

Records available.- March 1929 to September 1940.

Average discharge.- 11 years, 279 second-feet.

Extremes.- Maximum discharge during year, 5,620 second-feet Oct. 9 (gage height, 7.15 feet); no flow during parts of June and July.

1929-40: Maximum discharge, 21,500 second-feet Feb. 12, 1932 (gage height, 9.7 feet); no flow on several days each year.

Maximum discharge known, probably in excess of 100,000 second-feet, occurred Jan. 20, 1916, computed on basis of peak discharge at stations near Solomonsville and at Kelvin.

Remarks.- Records good except those for periods of no gage-height record, which are fair. Large diversions above station for irrigation. During the year 64 discharge measurements were made.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	65	158	39	206	679	98	39	14	504	76	32
2	8	66	155	74	492	669	98	57	12	132	116	152
3	6	58	150	158	3,390	607	96	77	10	97	306	134
4	3	62	147	190	3,880	553	94	82	11	74	523	74
5	2	62	140	206	1,970	436	92	77	12	55	505	52
6	2	66	122	209	1,230	352	77	78	9	43	207	927
7	262	65	105	223	875	328	68	83	8	31	a70	2,620
8	1,940	53	94	264	700	297	62	74	6	22	a40	534
9	4,710	53	83	260	571	264	61	57	4	15	a30	310
10	2,040	50	78	244	526	252	53	46	3	11	a25	212
11	792	43	78	237	457	268	48	36	2	7	176	176
12	436	47	69	244	394	237	45	35	1	5	581	121
13	328	58	57	244	352	252	43	32	1	3	215	93
14	260	62	61	237	352	252	42	26	0	1	2,310	65
15	202	54	48	226	319	502	42	22	0	0	1,140	59
16	163	52	46	226	297	406	38	18	0	0	1,930	a50
17	140	57	43	223	297	347	37	17	0	0	605	a45
18	115	74	40	223	272	323	37	16	0	0	326	a40
19	101	64	38	223	268	288	35	18	0	0	253	a35
20	86	57	37	219	260	248	34	15	0	0	151	a30
21	77	59	36	216	230	216	32	13	0	0	315	26
22	77	58	35	212	230	180	31	16	47	0	174	265
23	72	54	35	219	391	152	32	18	356	0	297	555
24	66	65	35	226	326	138	32	17	148	0	178	390
25	58	101	45	223	1,220	145	34	18	249	0	182	162
26	57	94	53	230	1,020	202	37	32	176	36	213	88
27	64	118	46	209	790	174	34	34	82	62	184	66
28	53	111	53	202	733	142	33	42	a20	48	141	46
29	53	130	53	183	722	126	39	43	a10	26	76	35
30	59	162	50	186	-	118	41	29	235	28	52	82
31	62	-	42	193	-	107	-	18	-	135	41	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	12,304	4,710	2	397	24,400
November.....	2,120	162	43	77.7	4,200
December.....	2,223	158	35	71.7	4,410
Calendar year 1939.....	57,820	4,710	0	158	114,700
January.....	6,468	264	39	207	12,830
February.....	22,770	3,880	206	785	45,160
March.....	9,536	679	107	308	18,910
April.....	1,545	98	31	51.5	3,060
May.....	1,185	83	13	39.2	2,350
June.....	1,416	356	0	47.2	2,810
July.....	1,335	504	0	43.1	2,650
August.....	11,438	2,310	25	367	22,690
September.....	7,476	2,620	26	247	14,830
Water year 1939-40.....	79,816	4,710	0	218	158,300

a No gage-height record; discharge June 28, 29, Aug. 7-10 computed from gage-height graph based on partial record and trend of record for preceding and following days; discharge Sept. 16-20 interpolated.

San Carlos Reservoir at Coolidge Dam, Ariz.

Location.— Water-stage recorder, lat. 33°10'30", long. 110°31'45", in NW¼ sec. 17, T. 3 S., R. 18 E., unsurveyed, at Coolidge Dam on Gila River. Datum of gage is at mean sea level (Indian Irrigation Service bench mark).

Drainage area.— 12,890 square miles (revised).

Records available.— November 1928 to September 1940.

Extremes.— Maximum contents during year, 53,000 acre-feet Mar. 20 (elevation, 2,409.16 feet); minimum 1,190 acre-feet July 24 (elevation, 2,383.99 feet).

1928-40: Maximum usable contents, 444,200 acre-feet Apr. 5, 1932 (elevation, 2,471.56 feet); minimum (since appreciable storage was attained in 1929), 396 acre-feet July 23, 1939 (elevation, 2,383.33 feet).

Remarks.— Reservoir is formed by concrete multiple-dome dam; storage began Nov. 15, 1928; dam completed Oct. 25, 1928. Total usable capacity about 1,200,000 acre-feet between elevations 2,383.0 feet (sill of outlet gates) and 2,523.0 feet (top of automatic spillway gates) above mean sea level. Dead storage below elevation 2,383.0 feet, 10,350 acre-feet according to 1937 survey. Figures given herein represent usable contents. Water is used for irrigation of San Carlos project and for power development, dependent on irrigation demands.

Elevation at 12 p.m., in feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	389.28	395.45	392.10	387.96	391.30	407.38	407.94	402.07	394.19	399.18	384.08	387.33
2	389.04	395.30	392.08	387.89	392.86	407.71	407.83	401.85	393.95	398.91	384.14	386.99
3	388.77	395.14	392.07	387.92	395.95	407.97	407.72	401.63	393.70	398.70	384.63	387.04
4	388.52	394.99	392.06	388.00	399.28	408.23	407.61	401.40	393.50	398.65	385.83	386.82
5	388.26	394.85	392.08	388.15	400.73	408.41	407.47	401.18	393.31	398.40	386.68	386.57
6	388.02	394.70	392.07	388.33	401.58	408.49	407.33	400.95	393.12	398.25	386.95	386.95
7	388.58	394.56	392.07	388.52	402.21	408.55	407.16	400.72	392.93	398.23	386.78	389.83
8	390.23	394.42	392.01	388.72	402.72	408.59	407.01	400.50	392.72	398.06	386.43	389.83
9	394.90	394.31	391.87	388.92	403.01	408.60	406.86	400.26	392.52	397.70	386.00	389.45
10	396.97	394.16	391.76	389.11	403.19	408.60	406.67	400.00	392.32	397.32	385.60	389.28
11	397.51	394.02	391.62	389.24	403.32	408.57	406.48	399.72	392.04	396.98	385.34	389.02
12	397.73	393.86	391.45	389.38	403.37	408.55	406.28	399.47	391.76	396.57	385.71	389.77
13	397.94	393.69	391.17	389.48	403.42	408.51	406.10	399.20	391.56	396.14	385.64	389.44
14	397.88	393.57	390.69	389.68	403.47	408.65	405.89	398.93	391.35	395.68	388.06	388.04
15	397.87	393.43	390.61	389.85	403.47	408.82	405.68	398.65	391.11	395.23	389.97	387.59
16	397.82	393.30	390.34	389.98	403.55	408.96	405.46	398.35	390.89	395.08	391.97	387.11
17	397.77	393.17	390.17	390.14	403.75	409.04	405.25	398.06	390.65	395.06	392.15	386.60
18	397.69	393.05	390.01	390.29	403.94	409.09	405.04	397.80	390.38	395.05	392.03	386.32
19	397.59	392.94	389.82	390.41	404.13	409.12	404.84	397.52	390.09	394.82	391.99	386.11
20	397.47	392.82	389.64	390.54	404.30	409.11	404.62	397.25	389.81	394.56	391.67	385.87
21	397.33	392.69	389.45	390.64	404.48	409.07	404.38	396.97	389.50	394.36	391.22	385.65
22	397.20	392.57	389.24	390.70	404.55	409.01	404.16	396.72	389.32	394.20	390.68	385.65
23	397.06	392.45	389.06	390.75	404.64	408.90	403.93	396.47	389.47	394.04	390.48	386.14
24	396.90	392.35	388.90	390.79	404.83	408.81	403.68	396.22	389.79	394.20	390.59	386.71
25	396.72	392.25	388.76	390.85	405.48	408.72	403.45	395.95	389.84	394.40	390.51	386.70
26	396.51	392.16	388.63	390.92	406.06	408.65	403.22	395.67	389.57	394.41	390.22	386.41
27	396.33	392.09	388.47	390.96	406.46	408.56	402.97	395.41	389.65	394.46	389.93	385.97
28	396.13	392.09	388.30	391.00	406.78	408.46	402.75	395.16	389.68	394.42	389.55	385.70
29	395.95	392.13	388.16	391.04	407.10	408.34	402.52	394.93	389.42	394.23	389.09	385.73
30	395.74	392.09	388.06	391.06	-	408.20	402.30	394.68	388.99	394.08	388.55	385.80
31	395.59	-	388.02	391.07	-	408.06	-	394.45	-	394.03	387.95	-

Note.— Add 2,000 feet to obtain elevations above mean sea level.

GILA RIVER BASIN

Contents at 12 p.m., in acre-feet, of San Carlos Reservoir at Coolidge Dam, Ariz., for water year
October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8,510	19,100	13,100	6,520	11,700	47,800	49,400	33,400	16,800	8,350	1,300	5,620
2	8,130	18,800	13,000	6,420	14,400	48,800	49,100	32,900	16,300	7,940	1,380	5,140
3	7,720	18,500	13,000	6,470	20,100	49,500	48,800	32,300	15,200	7,620	1,990	5,210
4	7,360	18,200	13,000	6,580	26,900	50,300	48,500	31,800	15,600	7,540	3,550	4,900
5	6,970	18,000	13,000	6,800	30,200	50,800	48,100	31,200	15,200	7,180	4,700	4,560
6	6,610	17,700	13,000	7,080	32,200	51,000	47,700	30,700	14,800	6,960	5,080	5,080
7	7,440	17,400	13,000	7,360	33,700	51,200	47,200	30,200	14,500	6,920	4,840	9,360
8	10,000	17,200	12,900	7,650	35,000	51,300	46,700	29,700	14,100	6,670	4,360	9,360
9	18,100	17,000	12,700	7,950	35,800	51,400	46,300	29,100	13,800	6,150	3,770	8,770
10	22,100	16,700	12,500	8,240	36,200	51,400	45,800	28,500	13,400	5,610	3,240	8,510
11	23,200	16,400	12,300	8,440	36,600	51,300	45,200	27,900	13,000	5,190	2,900	8,100
12	23,700	16,200	12,000	8,660	36,700	51,200	44,600	27,400	12,600	4,560	3,390	7,720
13	23,900	15,800	11,500	8,820	36,800	51,100	44,100	26,800	12,200	3,970	3,300	7,240
14	24,000	15,600	11,000	9,130	36,900	51,500	43,500	26,200	11,800	3,350	6,670	6,640
15	24,000	15,400	10,600	9,390	36,900	52,000	43,000	25,600	11,400	2,760	9,580	6,000
16	23,900	15,200	10,200	9,590	37,200	52,400	42,300	25,000	11,000	2,550	12,800	5,300
17	23,800	14,900	9,900	9,850	37,700	52,700	41,800	24,400	10,700	2,530	13,200	4,600
18	23,600	14,700	9,640	10,100	38,200	52,800	41,200	23,800	10,200	2,520	13,000	4,210
19	23,400	14,500	9,340	10,300	38,700	52,900	40,600	23,200	9,760	2,230	12,900	3,920
20	23,200	14,300	9,060	10,500	39,100	52,900	40,000	22,700	9,330	1,900	12,400	3,600
21	22,900	14,100	8,770	10,600	39,600	52,800	39,400	22,100	8,950	1,650	11,600	3,310
22	22,600	13,900	8,440	10,800	39,800	52,600	38,800	21,600	8,570	1,450	10,700	3,310
23	22,300	13,700	8,170	10,800	40,100	52,200	38,100	21,100	8,800	1,250	10,400	3,970
24	22,000	13,500	7,920	10,900	40,600	52,000	37,500	20,600	9,300	1,450	10,600	4,740
25	21,600	13,300	7,710	11,000	42,400	51,700	36,900	20,100	9,370	1,700	10,400	4,730
26	21,200	13,200	7,520	11,100	44,000	51,500	36,300	19,600	8,960	1,710	9,980	4,330
27	20,900	13,000	7,280	11,200	45,200	51,200	35,600	19,100	9,080	1,780	9,520	3,730
28	20,500	13,000	7,030	11,200	46,100	51,000	35,100	18,600	9,130	1,730	8,920	3,380
29	20,100	13,100	6,820	11,300	47,000	50,600	34,500	18,100	8,720	1,490	8,210	3,420
30	19,700	13,000	6,670	11,300	-	50,200	34,000	17,700	8,060	1,300	7,400	3,510
31	19,400	-	6,610	11,400	-	49,800	-	17,200	-	1,240	6,610	-

Monthly elevation and contents, water year October 1939 to September 1940

Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30.....	2,389.55	8,940	-
Oct. 31.....	2,395.59	19,400	+10,460
Nov. 30.....	2,392.09	13,000	-6,400
Dec. 31.....	2,388.02	6,610	-6,390
Calendar year 1939.....	-	-	+2,300
Jan. 31.....	2,391.07	11,400	+4,790
Feb. 29.....	2,407.10	47,000	+35,600
Mar. 31.....	2,408.06	49,800	+2,800
Apr. 30.....	2,402.30	34,000	-15,800
May 30.....	2,394.45	17,200	-16,800
June 30.....	2,388.99	8,060	-9,140
July 31.....	2,384.03	1,240	-6,820
Aug. 31.....	2,397.95	6,610	+5,270
Sept. 30.....	2,385.80	3,510	-3,000
Water year 1939-40.....	-	-	-5,430

Gila River below Coolidge Dam, Ariz.

Location.— Water-stage recorder and Parshall flume, lat. 33°10'15", long. 110°31'45", in SW $\frac{1}{4}$ sec. 17, T. 3 S., R. 18 E., unsurveyed, 2,200 feet downstream from Coolidge Dam. Datum of gage is 2,309.94 feet above mean sea level (Indian Irrigation Service bench mark).

Drainage area.— 12,890 square miles (revised).

Records available.— April 1914 to September 1940. July 1899 to November 1905, at site 8 miles upstream, below mouth of San Carlos River. August 1910 to February 1911, at site 9 miles upstream, above mouth of San Carlos River.

Average discharge.— 14 years (1914-28), 636 second-feet unregulated; 12 years (1928-40) 274 second-feet, regulated.

Extremes.— Maximum discharge during year, 634 second-feet Aug. 17, 18 (head on flume, 2.94 feet); minimum daily, 1 second-foot Aug. 15.

1914-28 (unregulated): Maximum discharge, 130,000 second-feet Jan. 20, 1916, computed on basis of peak discharge at Solomonsville and at Kelvin; no flow for several periods.

1928-40 (regulated): Maximum discharge, 1,240 second-feet July 31, 1937 (head on flume, 4.35 feet); no flow on several days in most years.

Remarks.— Records excellent. Crest width of Parshall flume, 30 feet. Large diversions above San Carlos Reservoir. Discharge regulated at Coolidge Dam since Nov. 15, 1928. Flow of about half a second-foot from warm spring between dam and gage (see list of miscellaneous discharge measurements) included in records.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	180	196	171	109	189	231	268	308	221	316	65	396
2	171	196	171	109	149	203	272	311	221	332	65	280
3	171	196	171	107	160	203	272	305	207	214	87	203
4	175	196	164	112	122	198	270	308	164	70	206	215
5	173	196	141	145	100	219	272	316	160	178	229	205
6	171	196	137	145	101	248	265	316	155	105	58	311
7	173	198	137	129	109	243	290	318	155	11	219	506
8	112	200	168	129	46	240	268	316	157	119	258	598
9	14	193	212	129	187	265	295	317	157	216	260	567
10	102	180	164	129	298	288	316	313	157	226	270	326
11	186	196	223	170	298	280	316	313	210	205	265	318
12	193	177	221	151	300	292	318	311	207	238	259	321
13	193	175	290	147	300	295	318	305	152	258	305	324
14	193	175	298	127	303	290	326	305	158	255	116	316
15	196	175	290	131	303	298	324	306	172	258	1	318
16	193	173	272	127	237	295	334	308	155	219	265	324
17	193	173	196	129	14	300	343	311	172	69	588	316
18	193	173	196	131	12	310	343	310	189	8	453	204
19	198	171	196	129	13	298	325	303	206	121	326	153
20	198	171	196	124	11	300	324	295	181	145	427	153
21	207	171	196	143	10	300	321	280	190	109	616	155
22	198	171	225	163	163	300	340	268	160	93	602	153
23	200	171	191	177	248	300	348	268	154	78	536	155
24	220	171	193	177	166	298	351	268	144	65	438	155
25	233	171	193	177	103	285	337	267	217	57	340	217
26	233	171	191	177	191	263	318	252	259	6	343	272
27	228	171	191	175	248	262	316	252	188	6	399	311
28	228	171	191	175	250	272	305	238	9	60	405	212
29	228	171	191	175	216	303	316	228	203	98	396	182
30	219	171	146	175	-	336	316	231	361	74	393	84
31	196	-	110	191	-	292	-	223	-	58	393	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	5,767	233	14	186	11,440
November.....	5,416	200	171	181	10,740
December.....	6,052	298	110	195	12,000
Calendar year 1939.....	61,961	487	1	170	122,900
January.....	4,514	191	107	146	8,950
February.....	4,847	303	10	167	9,610
March.....	8,507	336	198	274	16,870
April.....	9,387	351	270	313	18,620
May.....	8,969	318	223	289	17,790
June.....	5,481	299	9	183	10,870
July.....	4,267	332	6	138	8,460
August.....	9,583	616	1	309	19,010
September.....	8,250	598	84	275	16,360
Water year 1939-40.....	81,040	616	1	221	160,700

Gila River at Kelvin, Ariz.

Location.— Water-stage recorder, lat. 33°06'15", long. 110°58'45", in NW¼ sec. 12, T. 4 S., R. 13 E., at Kelvin, 1,000 feet downstream from Mineral Creek, 15 miles downstream from San Pedro River, and 19 miles upstream from Ashurst-Hayden Dam.

Drainage area.— 18,000 square miles (revised).

Records available.— January 1911 to September 1940.

Average discharge.— 17 years (1911-28) unregulated, 760 second-feet; 12 years (1928-40) largely regulated, 389 second-feet.

Extremes.— Maximum discharge during year, 38,200 second-feet Aug. 14 (gage height, 12.06 feet); minimum, 24 second-feet Feb. 23; minimum daily, 26 second-feet Feb. 22.
1911-40: Maximum discharge, about 132,000 second-feet Jan. 20, 1916 (gage height, 19.5 feet), from rating curve extended above slope-area measurement at 82,000 second-feet; minimum, less than one second-foot in summers of several years prior to 1929.

Remarks.— Records fair prior to June 1 and good thereafter, except those for period of no gage-height record, which are poor. Large diversions for irrigation above station. Flow regulated at Coolidge Dam (capacity about 1,200,000 acre-feet); no other regulation. During the year 50 discharge measurements were made.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	151	178	173	133	233	207	261	261	219	309	76	440
2	148	178	160	122	478	225	281	281	207	294	58	413
3	140	173	160	115	413	207	248	261	213	326	322	372
4	140	173	160	112	334	201	242	261	207	196	424	267
5	144	183	155	122	225	196	242	281	155	138	391	242
6	144	183	140	144	160	213	248	281	151	131	668	230
7	241	187	129	148	151	242	260	281	151	112	298	394
8	1,070	187	125	133	144	236	274	281	148	94	343	561
9	386	255	151	125	115	236	267	261	144	73	260	604
10	165	219	190	129	151	260	274	281	140	122	248	516
11	150	192	169	129	288	260	301	288	144	165	313	383
12	180	183	204	169	294	242	294	288	195	140	347	798
13	178	169	218	160	294	254	288	288	207	169	329	546
14	178	160	288	155	294	260	301	288	173	196	11,100	352
15	169	164	294	125	294	248	308	288	138	196	8,890	344
16	169	164	281	125	281	281	308	288	165	224	844	344
17	169	173	262	125	224	281	315	288	152	303	661	359
18	173	173	187	129	60	288	337	288	162	411	796	386
19	173	169	173	125	37	308	337	294	170	220	979	246
20	183	169	178	118	32	301	315	288	200	142	772	192
21	178	164	173	118	28	294	308	288	315	173	639	192
22	183	160	206	133	26	288	308	274	194	150	631	310
23	173	164	208	155	586	288	329	274	510	151	595	360
24	173	169	196	173	945	288	329	267	381	120	1,030	240
25	213	164	225	173	a480	281	344	260	206	291	751	187
26	235	160	254	173	a170	274	322	260	213	532	575	237
27	225	155	219	173	a200	260	301	242	741	367	437	297
28	213	162	213	173	a250	260	288	248	279	216	413	328
29	207	219	207	173	a250	260	281	230	91	142	397	230
30	207	178	213	173	-	294	281	225	181	115	405	173
31	192	-	179	169	-	315	-	219	-	101	413	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						6,660	1,070	140	215	13,220		
November.....						5,327	255	155	178	10,570		
December.....						6,090	294	125	196	12,080		
Calendar year 1939.....						88,461	5,560	2	242	175,500		
January.....						4,429	173	112	143	8,780		
February.....						7,437	945	26	266	14,750		
March.....						8,048	315	196	260	15,960		
April.....						8,812	344	242	294	17,480		
May.....						8,483	294	219	274	16,830		
June.....						6,552	741	91	218	13,000		
July.....						6,299	532	73	203	12,490		
August.....						34,405	11,100	58	1,110	68,240		
September.....						10,543	798	173	351	20,910		
Water year 1939-40.....						113,085	11,100	26	309	224,300		

a No gage-height record; discharge computed on basis of records for stations below Coolidge Dam, San Pedro River near Mammoth, Aravaipa Creek near Feldman, and Florence-Casa Grande canal at Ashurst-Hayden Dam.

Gila River at Ashurst-Hayden Dam, near Florence, Ariz.

Location.- Water-stage recorder, lat. 33°06', long. 111°15' (revised), in NW¼ sec. 8, T. 4 S., R. 11 E., at Ashurst-Hayden Dam, 10 miles northeast of Florence. Permanent crest of dam is 1,563.0 feet (general adjustment of 1912) or 1,562.5 feet (general adjustment of 1929) above mean sea level. Crest height temporarily increased by amounts varying from 0 to 0.9 foot by use of timbers and sand bags throughout the year.

Drainage area.- 18,300 square miles (revised).

Records available.- July 1923 to September 1940 (head on crest of dam only).

Extremes.- Maximum head during year, 3.3 feet Aug. 14; no flow over dam greater part of year.

1923-40: Maximum head, 8.0 feet Sept. 28, 1926; no flow over dam greater part of each year.

Remarks.- Figures given herein represent daily mean head on dam, corrected to eliminate effect of temporary drawdown when sluicing occurs. Records do not include water sluiced during periods of no flow over dam.

Florence-Casa Grande canal diverts water at this dam (see p. 253). Many other diversions above station for irrigation. Flow regulated at Coolidge Dam, except for periods of tributary inflow below that dam. San Pedro River contributes major portion of unregulated inflow.

Cooperation.- Water-stage recorder graph and data on height of temporary crest furnished by Office of Indian Affairs.

Mean head, in feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0		0	0	(c)	0	0		0	(c)	0	0
2	0		0	0	.04	0	0		0	0	0	0
3	0		0	0	(c)	0	0		0	0	0	0
4	0		0	0	0	0	0		0	0	(c)	0
5	0		0	0	0	0	0		0	0	0	0
6	0		0	0	0	0	0		0	0	0	0
7	0		0	(c)	0	0	0		0	0	0	0
8	.30		0	0	0	0	0		0	0	(c)	0
9	.01		0	0	0	0	0		0	0	0	0
10	0		0	0	0	0	0		0	0	0	0
11	0		0	0	0	0	0		0	.01	0	0
12	0		0	0	0	0	0		0	.02	0	0
13	0		0	0	0	0	0		0	0	0	0
14	0		0	0	0	0	0		0	(c)	1.14	.04
15	0		0	0	0	0	(c)		0	0	1.65	0
16	0		0	0	0	0	0		0	0	.23	0
17	0		0	0	0	0	0		0	(c)	.05	0
18	0		0	0	0	0	0		0	0	.04	0
19	(c)		0	0	0	0	0		0	0	.29	0
20	0		0	0	0	0	0		0	0	.20	0
21	0		0	0	0	0	0		.07	0	.06	0
22	(c)		0	0	0	0	0		0	0	0	0
23	0		.01	0	.13	0	0		.18	0	0	0
24	0		0	0	.21	0	0		(c)	.03	.09	0
25	(c)		0	0	0	0	0		0	.13	.04	0
26	(c)		0	0	0	0	0		(c)	.02	0	0
27	0		0	0	0	0	0		.14	0	0	0
28	0		0	0	0	0	0		.07	(c)	0	0
29	0		0	0	0	0	0		0	0	0	0
30	0		0	0	-	0	0		0	0	0	0
31	0		0	0	-	(c)	-		-	0	0	-

c Flow over crest of dam for short time, but mean head for day was less than 0.01 foot.

Note.- Water below crest of dam during months left blank and on days shown by zero.

GILA RIVER BASIN

Gila River near Laveen, Ariz.

Location.- Water-stage recorder above concrete diversion dam, lat. $33^{\circ}15'$, long. $112^{\circ}10'$, in SW $\frac{1}{4}$ sec. 16, T. 2 S., R. 2 E., on Gila River Indian Reservation, at highway bridge, $1\frac{1}{2}$ miles south of Komatke, 8 miles south of Laveen, and 8 miles upstream from Santa Cruz River.

Drainage area.- 20,200 square miles.

Records available.- January to September 1940.

Extremes.- Maximum discharge during period, 8,740 second-feet Aug. 17 (gage height, 9.21 feet); no flow at times during summer months.

Remarks.- Records good except those for period of no gage-height record and for period when entire flow was through sluice gate, which are poor. Records include flow over dam, through sluice gate in dam, and in bypass channel a quarter of a mile south of gage, but do not include flow in Cooperative canal, which diverts at dam (see table at end of report for miscellaneous canal measurements). Large diversions for irrigation above station. Flow partly regulated by storage in San Carlos Reservoir (see p. 227).

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						e4	e7	3	2	0	0	0
2						e4	e7	3	2	0	0	0
3						e4	e7	3	2	0	0	0
4					a10	e4	e7	3	2	0	0	0
5						e4	e8	3	2	0	0	0
6						e4	11	3	2	0	0	0
7					e10	e4	14	3	2	0	0	0
8					e12	e4	14	5	3	0	0	0
9					e13	e4	14	5	5	0	0	0
10					e14	e4	14	5	5	0	0	0
11						e14	e4	12	5	3	0	0
12						e14	e4	12	7	24	0	e1
13						e14	e4	10	7	0	0	e1
14						e11	e4	10	7	0	0	e4
15						e11	e5	12	7	0	724	e12
16				a15		e11	e5	12	7	0	2,830	e5
17						e8	e5	10	5	e1	4,180	e2
18						e8	e5	10	5	e2	102	e4
19						e9	e6	10	5	e2	82	e3
20						e12	e6	8	5	e2	213	e4
21						e12	e6	8	5	e2	52	e4
22						e12	e7	8	5	e3	e6	e5
23						e9	e7	8	3	e3	e4	e6
24						14	e7	7	3	e3	e1	e7
25						113	e7	7	3	84	0	e8
26						e26	e7	7	3	0	65	e9
27						e11	e7	5	3	0	e7	e9
28						e8	e7	3	2	e1	0	e10
29						e6	e7	3	2	e2	0	e10
30						-	e7	3	2	0	0	e10
31					-	-	e7	-	2	0	0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....					
November.....					
December.....					
Calendar year					
January.....	465	-	-	15	922
February.....	432	113	-	14.9	857
March.....	164	7	4	5.3	325
April.....	265	14	3	8.9	532
May.....	129	7	2	4.2	256
June.....	58	24	0	1.9	115
July.....	167	84	0	5.4	331
August.....	8,261	4,180	0	266	16,390
September.....	154	44	0	5.1	305
The period.....	-	-	-	-	20,030

a No gage-height record; discharge computed on basis of two discharge measurements made by Office of Indian Affairs and weather records.
 e Entire flow through sluice gate.

Gila River below Gillespie Dam, Ariz.

Location.- Water-stage recorder above left end of Gillespie Dam, lat. $33^{\circ}14'$, long. $112^{\circ}45'$, in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 28, T. 2 S., R. 5 W., 8 miles downstream from Hassayampa River. Datum of gage is 5.00 feet below average elevation of crest of dam which is 753.46 feet above mean sea level (general adjustment of 1929).

Drainage area.- 49,600 square miles (revised).

Records available.- August 1921 to September 1940.

Extremes.- Maximum discharge during year, 2,620 second-feet Aug. 19 (height over crest of dam, 0.87 foot); no flow during greater part of year.

1921-40: Maximum discharge, 70,000 second-feet Dec. 28, 1923 (height over crest of dam, 6.0 feet), by computation of flow over dam; no flow for several periods in each year.

A peak discharge of 250,000 second-feet (estimated) occurred in this reach of Gila River in February 1891.

Remarks.- Records good except those for Mar. 16, which are poor. Records do not include flow in Gillespie and Enterprise canals which divert from dam just upstream (see pps. 286 and 287), but do include discharge through sluice gates. Other diversions above station for irrigation. Flow of Gila River and tributaries above this station is regulated by San Carlos Reservoir on Gila River (capacity, about 1,200,000 acre-feet), by a series of reservoirs on Salt River (capacity, 1,771,000 acre-feet, revised), by Bartlett Reservoir on Verde River (capacity, 182,600 acre-feet), and by Lake Pleasant on Agua Fria River (capacity, 178,000 acre-feet, revised). For records of combined flow of Gila River, Gillespie canal, and Enterprise canal, see table on following page.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						0					0	
2						0					0	
3						0					0	
4						0					0	
5						0					0	
6						0					0	
7						0					0	
8						0					0	
9						0					0	
10						0					0	
11						0					0	
12						0					0	
13						0					0	
14						0					0	
15						0					0	
16						c52					0	
17						0					490	
18						0					1,540	
19						0					1,140	
20						0					0	
21						0					0	
22						0					0	
23						0					0	
24						0					0	
25						0					0	
26						0					0	
27						0					0	
28						0					0	
29						0					0	
30						0					0	
31						0					0	
Month	Second-foot-days					Maximum	Minimum	Mean	Run-off in acre-feet			
October.....	0					0	0	0	0			
November.....	0					0	0	0	0			
December.....	0					0	0	0	0			
Calendar year 1939.....	17,923					2,720	0	49.1	35,550			
January.....	0					0	0	0	0			
February.....	0					0	0	0	0			
March.....	52					52	0	1.7	103			
April.....	0					0	0	0	0			
May.....	0					0	0	0	0			
June.....	0					0	0	0	0			
July.....	0					0	0	0	0			
August.....	3,170					1,540	0	102	6,290			
September.....	0					0	0	0	0			
Water year 1939-40.....	3,222					1,540	0	8.5	6,390			

c Entire flow through sluice gates; discharge computed on basis of partial gage-height record above dam and records for Gillespie and Enterprise canals.

Combined discharge, in second-feet, of Gila River below Gillespie Dam and of Gillespie and Enterprise canals at Gillespie Dam, Ariz., for water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		-	136	140	171	140	128	89	43	32	27	50
2		-	132	150	172	138	129	87	44	31	27	52
3		-	133	152	168	140	127	87	46	32	27	54
4		-	133	144	169	143	125	86	41	33	27	54
5		-	132	138	155	143	125	83	37	31	28	52
6		-	130	136	153	138	121	87	38	31	28	50
7		-	128	138	150	134	116	86	39	30	30	53
8		-	124	143	151	131	113	80	41	31	29	52
9		-	124	143	153	130	115	74	42	31	29	51
10		-	121	142	149	130	119	74	41	30	30	51
11		-	123	140	144	131	117	74	37	29	31	58
12		-	117	138	147	130	112	69	38	30	29	59
13		-	111	137	149	129	110	68	37	30	28	57
14		-	106	131	147	124	99	59	36	31	30	52
15		-	106	136	157	124	98	55	36	31	30	52
16		-	108	142	162	139	105	55	36	32	46	52
17		-	113	143	158	100	102	54	35	32	695	59
18		-	111	146	155	122	98	54	36	33	1,750	66
19		-	108	147	152	125	104	53	36	32	1,360	123
20		-	107	149	152	124	104	55	35	31	178	186
21		-	109	153	150	124	96	55	35	31	137	115
22		-	110	153	147	126	96	55	35	31	128	71
23		-	112	150	149	124	98	52	37	31	88	62
24		-	117	149	150	125	101	50	37	30	66	59
25		-	126	150	148	126	96	47	35	29	60	57
26		-	132	149	148	125	95	45	34	30	57	56
27		-	135	148	148	127	97	46	34	28	55	57
28		-	132	149	146	128	95	45	33	28	56	57
29		138	130	157	143	128	96	42	32	28	55	55
30		142	132	175	-	128	94	43	32	28	51	53
31		-	137	182	-	125	-	42	-	27	49	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	2,753	-	-	89	5,480
November.....	3,009	-	-	100	5,970
December.....	3,775	137	106	122	7,490
Calendar year	-	-	-	-	-
January.....	4,550	182	131	147	9,020
February.....	4,433	172	143	153	8,790
March.....	4,001	143	100	129	7,940
April.....	3,231	129	94	108	6,410
May.....	1,951	89	42	62.9	3,870
June.....	1,118	46	32	37.3	2,220
July.....	944	33	27	30.5	1,870
August.....	5,259	1,750	27	170	10,430
September.....	1,925	186	50	64.2	3,820
Water year 1939-40.....	36,949	1,750	27	101	73,290

Gila River near Dome, Ariz.

Location.- Water-stage recorder, lat. $32^{\circ}45'30''$, long. $114^{\circ}25'15''$, in SW $\frac{1}{4}$ sec. 4, T. 8 S., R. 21 W., 3 miles west of Dome and 12 miles upstream from mouth. Datum of gage is 148.18 feet above mean sea level (general adjustment of 1929).

Drainage area.- 58,100 square miles.

Records available.- May 1929 to September 1940. October 1903 to December 1906, at site 4 miles upstream.

Extremes.- No flow during year.

1929-40: Maximum discharge, 20,700 second-feet Feb. 15, 1932 (gage heights, 16.75 feet); no flow during part of each year.

Maximum daily discharge, 200,000 second-feet (estimated), Jan. 22, 1916.

Remarks.- No flow during 1939-40 water year. Mean discharge during 1939 calendar year, 4.9 second-feet (run-off, 3,540 acre-feet). Diversions above station for irrigation. Flow regulated by reservoirs above station (see p. 233). No regulation below Gillespie Dam.

Sunset canal near Virden, N. Mex.

Location.— Water-stage recorder and concrete control, lat. 32°39', long. 108°56', in SW $\frac{1}{4}$ sec. 17, T. 19 S., R. 20 W., about 1 $\frac{1}{2}$ miles downstream from intake, 4 miles southeast of Virden, and about 12 miles east of Duncan, Ariz.

Records available.— October 1914 to September 1915, July 1922 to September 1931, and January 1939 to September 1940 in reports of Geological Survey. January 1936 to December 1938 in files in office of Gila Water Commissioner, appointed by United States District Court for Arizona.

Extremes.— Maximum discharge during year, 62 second-feet Apr. 4; maximum gage height, 2.49 feet July 2; no flow at times.
1939-40: Maximum discharge, 66 second-feet July 17, 1939 (gage height, 2.77 feet); no flow at times.

Remarks.— Records good. Canal diverts from right bank of Gila River in SW $\frac{1}{4}$ sec. 21, T. 19 S., R. 20 W., for irrigation in Virden Valley. No diversions between intake and station.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	33	5.2	0.2	0	0	14	54	50	34	55	40	35
2	31	1.8	0	0	0	20	55	48	35	56	32	31
3	25	1.4	0	0	0	16	55	50	36	55	9.3	35
4	26	1.1	6.1	.2	0	21	56	46	35	48	17	32
5	24	.9	9.5	3.2	0	19	56	48	31	44	27	31
6	24	.9	9.1	6.6	0	15	57	51	26	41	36	11
7	25	11	8.7	1.1	.3	14	56	40	23	38	46	25
8	.8	16	8.2	1.1	1.8	24	55	42	20	37	42	33
9	0	19	8.0	1.1	2.7	34	55	49	18	28	51	31
10	0	21	7.6	1.2	2.5	33	51	50	17	21	52	29
11	7.4	23	7.8	1.4	.8	38	55	45	16	15	43	29
12	19	22	7.2	1.2	1.4	40	58	43	14	12	44	31
13	23	22	7.4	1.1	10	36	58	38	11	12	48	38
14	18	22	7.4	.5	14	26	51	49	11	11	46	41
15	14	22	7.4	.3	12	25	54	48	11	13	44	35
16	15	24	7.2	.3	8.7	23	52	48	7.6	16	42	33
17	27	28	7.2	8.2	7.2	22	49	48	6.8	13	35	35
18	31	28	6.4	14	13	37	52	46	6.8	13	17	32
19	30	24	5.4	15	28	42	52	38	5.2	13	32	32
20	30	23	6.2	14	35	45	52	38	4.8	13	38	31
21	31	24	7.6	9.6	36	51	52	40	6.6	17	44	29
22	25	24	14	0	28	51	49	36	15	18	44	33
23	17	20	18	0	6.7	35	44	28	37	19	36	27
24	29	13	17	0	0	14	38	31	45	32	26	30
25	28	14	18	0	0	42	39	29	42	45	41	34
26	28	14	12	6.3	1.4	45	35	28	38	31	43	31
27	22	15	7.2	6.3	3.5	48	33	32	35	34	41	26
28	9.6	15	7.8	0	6.0	51	34	43	35	28	37	25
29	0	13	12	3.4	8.0	53	40	44	40	24	31	28
30	4.2	6.2	11	5.8	-	50	46	39	46	33	f25	36
31	7.1	-	7.6	4.0	-	51	-	32	-	38	21	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						602.1	33	0	19.4	1,190		
November.....						473.5	28	.4	15.8	939		
December.....						259.2	18	0	8.36	514		
Calendar year 1939.....						8,643.1	56	0	23.7	17,135		
January.....						105.9	15	0	3.42	210		
February.....						227.0	36	0	7.83	450		
March.....						1,035	53	14	33.4	2,080		
April.....						1,492	58	33	49.7	2,960		
May.....						1,297	51	28	41.8	2,570		
June.....						703.8	45	4.9	23.6	1,410		
July.....						873	56	11	28.2	1,730		
August.....						1,130.3	52	9.3	36.5	2,240		
September.....						929	41	11	31.0	1,840		
Water year 1939-40.....						9,132.8	58	0	25.0	18,100		

f Computed from partly estimated gage height.

Sunset canal above New Mexico-Arizona State line, near Virden, N. Mex.

Location.- Water-stage recorder and 3-foot concrete Parshall flume, lat. 32°41', long. 109°02', in NE¼SE¼ sec. 31, T. 18 S., R. 21 W., about a quarter of a mile east of New Mexico-Arizona State line and 2.5 miles west of Virden.

Records available.- February 1939 to September 1940.

Extremes.- Maximum discharge during year, 34 second-feet Oct. 7 (gage height, 1.85 feet); from rating curve extended above 15 second-feet by logarithmic plotting; no flow at times.

1939-40: Maximum discharge, that of Oct. 7, 1939; no flow at times.

Remarks.- Records good. Canal diverts from right bank of Gila River in SW¼NW¼ sec. 21, T. 19 S., R. 20 W., for irrigation. Numerous diversions above and below station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.4	0	0	0.1	0	7.3	11	3.6	0.5	8.2	9.3	0.1
2	2.8	0	0	0	0	7.6	2.7	1.2	2.2	9.5	7.2	5.0
3	6.0	0	0	0	0	3.6	1.7	.3	5.6	2.4	.1	6.2
4	6.5	0	0	0	0	10	11	.4	12	1.1	6.8	7.3
5	.3	0	2.9	0	0	11	7.8	.3	5.6	.2	6.4	3.3
6	.3	0	7.7	4.9	0	8.0	8.5	3.8	1.3	6.2	2.3	.4
7	2.8	0	6.7	.8	0	9.3	3.9	7.0	0	5.4	f2	1.5
8	.1	0	6.2	.4	0	6.5	5.6	8.5	.1	6.5	a6	6.5
9	0	0	6.7	.3	0	12	1.6	7.3	.7	4.1	6.8	8.9
10	0	1.3	3.8	.2	0	8.7	.6	8.0	7.5	.4	7.8	7.7
11	0	3.9	3.4	.3	0	5.4	.6	1.4	2.5	2.4	5.6	5.1
12	7.7	5.3	5.6	.6	0	7.3	1.2	0	0	0	7.0	2.1
13	9.1	7.3	5.1	.4	2.4	8.4	11	0	0	0	6.5	.7
14	10	5.1	5.4	.4	9.6	6.0	11	7.3	0	0	3.5	1.2
15	4.0	3.7	4.7	.1	8.2	5.3	12	8.4	0	0	5.4	3.0
16	.9	.3	3.5	0	6.7	10	12	7.3	0	1.2	8.0	8.1
17	1.0	.5	3.5	0	2.0	10	16	6.5	0	3.2	6.5	8.4
18	5.0	2.3	2.3	0	.4	12	7.8	9.1	1.5	3.9	7.0	6.5
19	5.3	2.6	.6	0	11	12	1.7	8.4	3.6	.6	7.3	5.4
20	3.0	3.0	.3	0	13	11	3.2	1.8	.6	0	6.4	1.1
21	1.7	3.1	1.3	0	6.7	9.1	4.4	.6	0	0	4.4	.1
22	6.2	.5	2.7	0	8.1	8.5	6.4	.4	0	0	1.9	2.4
23	1.2	6.0	4.7	0	11	6.0	6.0	1.0	4.9	1.4	f1.0	7.0
24	.4	7.2	8.4	0	.2	1.4	5.1	4.1	7.5	3.5	0	12
25	6.8	6.6	8.2	0	.1	7.0	11	8.4	1.5	7.0	4.4	10
26	3.0	2.3	7.4	0	.1	6.4	11	12	.8	5.6	4.6	6.5
27	1.6	5.7	3.0	0	.8	12	8.5	11	4.3	.8	7.0	5.3
28	.1	5.7	2.4	0	3.4	11	7.3	8.2	9.3	2.7	5.1	2.5
29	0	8.6	4.7	0	4.4	9.3	6.5	5.7	8.7	5.7	5.7	2.9
30	0	.4	3.8	0	-	7.2	7.0	2.6	7.8	6.8	1.2	2.4
31	0	-	3.4	0	-	9.6	-	.1	-	7.0	.2	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						86.2	10	0	2.78	171		
November.....						81.4	8.6	0	2.71	161		
December.....						118.4	8.4	0	3.82	235		
Calendar year						-	-	-	-	-		
January.....						8.5	4.9	0	.27	17		
February.....						88.1	13	0	3.04	175		
March.....						258.9	12	1.4	8.35	514		
April.....						204.1	16	.6	6.80	405		
May.....						144.7	12	0	4.67	287		
June.....						98.5	12	0	2.95	176		
July.....						95.8	9.5	0	3.09	190		
August.....						153.4	9.3	0	4.95	304		
September.....						139.6	12	.1	4.65	277		
Water year 1939-40						1,467.6	16	0	4.01	2,910		

a No gage-height record; discharge estimated.

f Computed from partly estimated gage height.

Sunset canal wasteway near Virden, N. Mex.

Location.- Water-stage recorder and 3-foot concrete Parshall flume, lat. 32°41', long. 109°02', in NW 1/4 sec. 31, T. 18 S., R. 21 W., just below intake, at New Mexico-Arizona State line, 2 1/2 miles west of Virden.

Records available.- February 1939 to September 1940.

Extremes.- Maximum discharge during year, 25 second-feet Mar. 17 (gage height, 1.53 feet), from rating curve extended above 11 second-feet by logarithmic plotting; no flow at times.

1939-40: Maximum discharge, that of Mar. 17, 1940; no flow at times.

Remarks.- Records fair except those estimated, which are poor. Discharge represents waste from Sunset canal to Gila River by way of Carlyle Canyon. Intake of wasteway is between gaging station on Sunset canal above New Mexico-Arizona State line and the State line.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.2	0	0	0	0	0.8	1.8	0.1	0.5	2.4	4.3	0
2	0	0	0	0	0	2.2	.3	.4	.9	.2	f3.6	.2
3	0	0	0	0	0	1.1	1.6	.4	1.2	.3	0	1.7
4	0	0	0	0	0	3.4	5.1	.2	.9	1.2	2.2	1.3
5	0	0	2.2	0	0	1.4	1.2	.2	0	.2	1.2	.2
6	0	0	7.2	5.2	0	0	1.5	1.2	0	2.9	2.1	f.3
7	1.7	0	6.6	.7	0	.1	.2	4.8	0	1.6	.8	1.0
8	0	0	6.2	.4	0	0	.3	5.4	0	2.3	2.7	2.4
9	0	0	6.6	.3	0	4.6	.6	2.7	.2	.1	3.4	3.4
10	0	1.0	3.8	.2	0	4.6	.1	.4	1.4	0	2.7	2.6
11	0	3.5	3.4	.3	0	1.0	.5	.2	.1	.4	f1.0	.5
12	7.8	1.7	5.6	.6	0	.3	1.1	.1	0	0	f.1	.4
13	8.9	4.7	5.1	.4	2.5	.2	4.7	0	0	0	f.1	.1
14	7.8	4.8	5.4	.4	8.0	0	2.9	5.1	0	0	3.0	.1
15	1.5	3.5	4.7	.1	3.2	.2	2.1	5.0	0	0	3.2	0
16	.1	.2	1.5	0	4.0	.3	.8	3.8	0	.2	3.0	1.7
17	0	.5	0	0	1.7	1.0	2.8	2.4	0	0	f2.5	.3
18	.4	2.6	0	0	0	6.2	.8	3.9	0	0	a2.5	.7
19	3.4	2.0	.3	0	7.8	2.3	.4	1.1	0	0	a2	0
20	2.2	.8	.3	0	2.0	0	1.3	.3	0	0	0	0
21	.1	.9	1.3	0	1.0	1.2	2.0	0	0	0	.6	0
22	4.4	.2	3.0	0	8.3	.2	3.8	.1	0	0	.6	1.9
23	.9	1.9	4.7	0	11	.1	5.3	0	.2	0	0	5.0
24	.4	.4	8.7	0	0	1.0	5.0	1.3	1.3	.1	0	4.2
25	4.1	1.2	7.6	0	0	2.9	9.5	4.4	.3	1.7	0	5.3
26	.3	.2	7.2	0	0	.8	6.3	7.0	.2	1.1	.4	1.2
27	0	2.8	2.8	0	.6	3.6	6.0	3.2	.4	.2	1.6	.7
28	.1	3.3	2.2	0	1.9	2.1	4.1	0	2.1	.2	f.8	1.7
29	0	6.5	4.4	0	0	1.4	.8	.6	2.7	.9	f0	2.2
30	0	.2	3.7	0	-	.9	1.2	.1	2.9	2.0	f0	2.4
31	0	-	3.1	0	-	0	-	0	-	3.2	f0	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						44.3	8.9	0	1.43	88		
November.....						42.9	6.5	0	1.43	85		
December.....						107.8	8.7	0	3.48	214		
Calendar year						-	-	-	-	-		
January.....						6.6	5.2	0	.28	17		
February.....						52.0	11	0	1.79	103		
March.....						44.3	6.2	0	1.43	88		
April.....						74.1	9.5	.1	2.47	147		
May.....						54.4	7.0	0	1.75	108		
June.....						15.3	2.9	0	.51	30		
July.....						21.2	3.2	0	.68	42		
August.....						44.6	4.3	0	1.44	88		
September.....						41.5	5.3	0	1.38	82		
Water year 1939-40.....						551.0	11	0	1.51	1,090		

a No gage-height record; discharge estimated.

f Computed from partly estimated gage height.

Middle canal near Virden, N. Mex.

Location.- Water-stage recorder and concrete control, lat. 32°40', long. 103°59', in SW $\frac{1}{4}$ sec. 11, T. 19 S., R. 21 W., half a mile downstream from intake, $1\frac{1}{2}$ miles southeast of Virden, and about 8 miles southeast of Duncan, Ariz.

Records available.- October 1914 to September 1915, July 1922 to September 1931, and January 1939 to September 1940 in reports of Geological Survey. January 1936 to December 1938 in files in office of Gila Water Commissioner, appointed by United States District Court for Arizona.

Extremes.- Maximum discharge during year, 148 second-feet Aug. 2 (gage height, 2.45 feet), from rating curve extended above 60 second-feet by logarithmic plotting; no flow at times.

1939-40: Maximum discharge, that of Aug. 2, 1940; no flow at times.

Remarks.- Records good except those for periods of fragmentary gage-height record, which are poor. Canal diverts from left bank of Gila River in NW $\frac{1}{4}$ sec. 11, T. 19 S., R. 21 W., for irrigation in Virden Valley. No diversions between intake and station.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.0	33	12	0	3.3	11	23	34	17	19	f24	10
2	9.8	34	7.8	0	7.2	25	22	33	16	32	f23	.6
3	15	35	1.8	.1	5.2	22	22	31	13	9.9	0	3.7
4	15	36	1.0	1.3	3.5	34	22	31	10	0	0	7.2
5	12	f22	.6	1.6	4.6	45	30	30	8.4	9.8	9.3	4.8
6	9.4	f16	.6	3.1	1.1	41	35	28	5.1	9.4	37	13
7	10	15	.6	2.7	.2	37	34	28	4.3	6.5	35	0
8	27	16	6.1	1.8	0	34	33	28	4.0	4.0	42	0
9	0	19	9.8	1.6	0	30	34	27	3.3	2.7	33	23
10	0	20	9.8	1.4	0	30	40	24	3.1	2.0	26	28
11	0	21	9.8	3.6	0	35	36	21	2.9	1.3	27	22
12	0	20	8.8	5.6	0	44	36	22	2.7	1.3	34	19
13	0	19	8.8	2.4	0	32	35	25	2.4	1.0	41	34
14	0	19	9.1	3.3	0	f21	35	25	2.2	.7	f37	30
15	0	19	9.4	3.5	0	f17	35	24	2.4	13	f38	25
16	0	19	9.8	3.5	7.9	f26	34	23	2.2	f12	35	23
17	0	19	9.4	2.9	33	42	36	24	2.2	f2.5	f34	18
18	0	18	9.4	2.4	34	37	36	27	1.8	1.4	f33	17
19	0	19	13	2.4	30	37	41	29	1.3	1.3	f32	16
20	5.2	18	19	2.4	28	41	44	28	1.0	1.3	32	17
21	22	18	19	2.9	26	39	41	28	1.0	1.0	31	14
22	26	18	18	2.2	28	38	33	23	4.6	.8	42	12
23	30	19	18	2.7	28	35	28	22	30	1.0	16	26
24	26	20	18	3.8	0	24	36	25	44	12	21	28
25	26	20	6.5	3.5	5.0	25	38	25	30	21	28	22
26	32	20	0	3.1	18	26	39	25	23	3.5	18	18
27	32	12	.2	2.9	8.3	26	38	24	21	11	18	15
28	33	4.6	12	3.3	3.0	26	36	23	22	23	f9	14
29	15	7.2	20	2.7	5.4	24	36	20	18	f1	5.9	19
30	4.2	11	21	2.0	-	24	35	17	17	4.0	4.0	29
31	28	-	15	2.0	-	24	-	16	-	22	1.8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	381.6	33	0	12.3	757
November.....	586.8	36	4.6	19.6	1,160
December.....	504.3	21	0	9.82	604
Calendar year 1939.....	5,159.3	56	0	14.1	10,240
January.....	76.7	5.6	0	2.47	152
February.....	279.7	34	0	9.64	555
March.....	952	45	11	30.7	1,890
April.....	1,023	44	22	34.1	2,030
May.....	790	34	16	25.5	1,570
June.....	515.9	44	1.0	10.5	627
July.....	231.4	32	0	7.46	459
August.....	769.0	42	0	24.8	1,530
September.....	508.3	34	0	16.9	1,010
Water year 1939-40.....	6,218.7	45	0	17.0	12,340

f Fragmentary gage-height record; discharge computed from partly or wholly estimated gage-height graph.

Middle canal at New Mexico-Arizona State line, near Virden, N. Mex.

Location.- Water-stage recorder and 4-foot concrete Parshall flume, lat. 32°41', long. 109°02', in NE¼SE¼ sec. 6, T. 19 S., R. 21 W., about 500 feet upstream from New Mexico-Arizona State line, about 2½ miles west of Virden, and about 4½ miles southeast of Duncan, Ariz.

Records available.- February 1939 to September 1940.

Extremes.- Maximum discharge during year, 60 second-feet Oct. 7 (gage height, 2.27 feet), from rating curve extended above 26 second-feet by logarithmic plotting; no flow at times.

1939-40: Maximum discharge, that of Oct. 7, 1939; no flow at times.

Remarks.- Records good. Canal diverts from left bank of Gila River in NW¼SE¼ sec. 11, T. 19 S., R. 21 W., for irrigation in Virden Valley. Many diversions above and below station.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.2	7.1	0.9	0.1	0	0	13	15	12	5.3	14	0.9
2	5.8	7.1	1.1	0	0	11	11	12	10	5.2	15	0
3	10	6.7	.9	0	.6	15	8.7	15	6.5	.7	0	.1
4	8.5	4.9	.8	0	1.6	18	13	14	6.5	0	0	2.8
5	6.9	3.1	.3	0	5.1	24	15	10	3.8	3.2	0	2.2
6	4.8	6.7	.3	0	1.1	27	22	10	.8	3.7	6.4	.1
7	8.1	10	.3	0	.4	30	15	7.9	.5	1.6	19	0
8	0	10	3.2	0	0	26	13	9.4	.2	1.7	18	0
9	0	6.7	5.3	0	0	20	15	7.7	0	0	16	8.9
10	0	5.7	3.2	0	0	14	13	2.9	0	0	16	18
11	0	5.7	3.2	0	0	9.8	15	4.8	0	0	12	15
12	0	5.5	3.1	.6	0	7.5	11	3.4	0	0	7.5	17
13	0	4.6	2.6	0	0	6.5	4.6	1.9	0	0	22	18
14	0	4.0	4.8	0	0	9.6	9.1	8.5	0	0	14	17
15	0	4.0	5.9	0	0	12	13	6.5	.0	0	11	18
16	0	5.1	8.5	0	0	15	10	8.9	0	2.9	12	21
17	0	6.9	9.4	0	7.0	17	13	7.2	0	0	4.8	19
18	0	8.1	9.4	0	11	15	19	6.9	0	0	13	15
19	0	7.5	11	0	14	13	23	8.9	0	0	13	14
20	7.2	7.3	15	0	18	15	21	12	0	.8	20	13
21	20	9.4	15	0	15	16	10	6.5	0	0	15	5.9
22	14	12	15	0	12	11	2.0	2.2	0	0	19	.3
23	15	13	12	0	0	5.3	6.4	5.8	21	0	7.2	.7
24	13	10	6.9	0	0	3.7	15	5.7	20	2.8	5.6	1.2
25	16	8.3	2.0	0	0	1.1	18	2.4	15	13	f16	2.2
26	17	2.7	0	0	0	.2	18	1.5	7.6	1.0	f0	3.6
27	8.9	1.4	0	0	0	8.8	16	4.5	2.9	.3	f1.6	6.1
28	2.3	1.4	2.6	0	0	10	15	12	5.7	2.9	1.9	5.1
29	0	3.4	9.1	0	0	4.6	13	9.3	6.1	3.6	0	7.1
30	0	1.8	13	0	-	10	13	9.3	6.7	0	0	6.3
31	3.4	-	9.8	0	-	14	-	11	-	19	0	-
Month	Second-foot-days		Maximum		Minimum		Mean		Run-off in acre-feet			
October.....	162.1		20		0		5.23		322			
November.....	190.1		13		1.4		6.34		377			
December.....	174.6		15		0		5.63		346			
Calendar year	-		-		-		-		-			
January.....	.7		.6		0		.02		1.4			
February.....	85.8		18		0		2.96		170			
March.....	392.1		30		0		12.6		775			
April.....	403.8		23		2.0		13.5		801			
May.....	241.1		15		1.5		7.78		478			
June.....	125.3		21		0		4.18		249			
July.....	67.7		19		0		2.18		134			
August.....	300.0		22		0		9.68		595			
September.....	238.3		21		0		7.94		473			
Water year 1939-40.....	2,381.6		30		0		6.51		4,720			

f Computed from partly estimated gage height.

GILA RIVER BASIN

Shriver canal at Virden, N. Mex.

Location.- Water stage recorder and concrete control, lat. 32°40', long. 109°00', in SE $\frac{1}{4}$ sec. 3, T. 19 S., R. 21 W., a quarter of a mile downstream from heading, 1 mile southeast of Virden, N. Mex., and about 9 miles southeast of Duncan, Ariz.

Records available.- January 1939 to September 1940.

Extremes.- 1939: Maximum discharge during period January to September, 14 second-feet Aug. 3 (gage height, 1.60 feet), from rating curve extended above 6 second-feet by logarithmic plotting; no flow at times.

1939-40: Maximum discharge during water year, 29 second-feet Oct. 8, from rating curve extended above 6 second-feet by logarithmic plotting; maximum gage height, about 3.6 feet Sept. 6; no flow at times.

Remarks.- Records fair except those for periods of fragmentary gage-height record, which are poor. Canal diverts water from left bank of Gila River for irrigation on lands in New Mexico.

Discharge, in second-feet, 1939-40

1939

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0	0	2.1	6.4	2.4	1.1	2.8	2.5
2					0	0	1.9	6.5	2.2	1.1	4.9	a2.3
3					0	0	2.3	5.9	2.2	1.2	10	a2.2
4					0	0	2.5	5.2	2.2	1.3	4.3	a2.0
5					0	0	2.4	4.6	2.1	1.1	4.7	1.8
6					0	1.9	2.5	5.0	2.0	1.3	5.4	2.3
7					0	3.5	2.1	3.8	2.4	1.3	5.1	1.6
8					0	3.4	1.8	2.9	2.1	1.2	3.6	.5
9					0	3.2	1.2	3.2	2.1	1.2	3.7	.1
10					0	2.7	2.0	3.4	2.5	1.3	4.5	0
11					0	2.3	1.2	3.2	2.7	1.4	2.2	.1
12					0	2.4	0	4.6	2.6	1.2	1.3	.2
13					0	1.9	0	4.0	2.7	1.2	3.3	.2
14					0	1.1	2.9	3.8	2.7	1.1	6.7	.2
15					0	1.0	5.6	4.4	2.7	1.1	4.8	1.8
16					0	1.0	5.6	4.9	2.7	.9	5.1	0
17					0	.9	6.4	5.0	2.7	4.3	4.1	.6
18					0	.8	6.1	4.9	2.7	3.4	2.9	.9
19					0	.8	5.8	3.8	2.7	1.6	7.1	.1
20					0	.8	5.9	3.6	2.7	1.6	6.0	.1
21					2.8	3.0	5.6	3.6	2.6	1.8	4.1	0
22					4.4	4.4	4.4	3.5	2.5	1.7	3.1	0
23					4.8	5.4	3.4	4.6	2.5	1.9	3.5	.1
24					2.1	5.1	4.2	3.8	2.4	1.9	4.0	0
25					0	4.6	3.9	3.0	2.2	2.3	4.7	0
26					0	4.4	5.2	2.6	1.9	3.8	6.1	0
27					0	3.9	4.8	2.3	.7	3.1	5.6	0
28					0	5.1	5.4	2.4	.4	2.2	5.6	0
29					-	4.4	5.9	2.5	1.3	2.1	4.4	.4
30					-	3.8	6.4	2.7	1.2	2.1	2.6	.6
31					-	2.7	-	2.7	-	2.6	2.5	-

a No gage-height record; discharge interpolated.

Discharge, in second-feet, of Shriver canal at Virden, N. Mex., 1939-40--Continued

1939-40

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.9	0			0	3.9	0.1	5.3	1.1	1.6	f2.8	2.5
2	.8	0			0	2.7	0	4.4	1.1	2.3	f2.6	1.3
3	.8	0			0	1.5	0	3.2	.6	3.7	f0	1.1
4	.9	0			0	.5	0	2.7	.4	3.5	f.8	1.0
5	1.1	f0			0	0	0	1.7	1.7	1.6	f1.4	1.5
6	1.0	f0			0	0	0	1.6	3.0	.5	1.4	f5
7	2.2	0			0	.7	0	4.2	2.9	.5	2.4	0
8	11	0			0	1.8	.2	4.6	2.7	.5	3.4	0
9	0	f0			0	1.8	1.6	4.7	2.5	1.3	f1.5	.3
10	0	0			0	1.7	2.9	2.1	2.9	2.1	f.5	0
11	0	0			0	2.2	3.2	1.1	3.3	2.0	f.3	0
12	0	0			0	6.1	2.2	2.9	3.2	2.0	f1.3	0
13	0	0			0	6.8	1.4	4.1	3.2	2.1	.3	0
14	0	0			0	6.0	1.2	4.5	2.9	2.0	2.9	0
15	0	0			0	4.9	2.0	4.0	2.7	3.0	f4.1	0
16	0	.4			0	4.5	2.1	3.4	2.8	.6	f2.0	0
17	0	.6			0	4.4	2.1	4.0	2.0	1.5	f1.0	0
18	0	.2			0	2.2	4.9	5.0	.1	2.3	f.5	0
19	0	0			0	.8	4.8	5.6	2.0	2.4	f0	0
20	0	0			.1	.2	4.7	5.3	3.1	2.1	0	0
21	0	0			.6	.2	4.4	4.7	1.2	1.5	.2	0
22	0	0			.5	.3	4.6	5.2	.7	2.3	1.1	0
23	0	0			.5	1.5	4.7	5.8	.1	2.7	3.6	0
24	0	0			.3	2.4	4.2	5.8	0	2.1	.7	0
25	0	0			0	1.7	4.4	5.8	0	1.6	0	0
26	0	0			0	1.6	4.4	5.8	.8	1.7	0	0
27	0	0			0	1.4	4.2	5.3	3.2	2.3	0	0
28	0	0			0	1.1	4.0	3.4	2.0	1.7	.5	0
29	0	0			1.4	.6	5.3	2.3	1.2	2.1	1.8	0
30	f0	0			-	.4	6.0	2.1	1.0	f1.1	1.7	.2
31	f0	-			-	.3	-	2.2	-	1.0	1.6	-

f Fragmentary gage-height record; discharge computed from partly or wholly estimated gage heights.

Monthly discharge, in second-feet, 1939-40

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
January 1939	0	0	0	0	0
February.....	14.1	4.8	0	.50	28
March.....	74.5	5.4	0	2.40	148
April.....	109.6	6.4	0	3.65	217
May.....	122.8	6.5	2.3	3.96	244
June.....	66.8	2.7	.4	2.23	132
July.....	55.4	4.3	.9	1.79	110
August.....	138.7	10	1.3	4.47	275
September.....	20.6	2.5	0	.69	41
The period.....	-	-	-	-	1,200
October 1939	18.7	11	0	.60	37
November.....	1.2	.6	0	.04	2.4
December.....	0	0	0	0	0
Calendar year 1939	622.3	11	0	1.70	1,230
January 1940	0	0	0	0	0
February.....	3.4	1.4	0	.12	6.7
March.....	64.2	6.8	0	2.07	127
April.....	79.6	6.0	0	2.65	158
May.....	122.8	5.8	1.1	3.96	244
June.....	54.4	3.3	0	1.81	108
July.....	57.7	3.7	.5	1.86	114
August.....	40.4	4.1	0	1.30	80
September.....	12.9	5	0	.43	26
Water year 1939-40	455.3	11	0	1.24	903

Valley canal near Virden, N. Mex.

Location.— Water-stage recorder and 4-foot concrete Parshall flume, lat. $32^{\circ}41'$, long. $109^{\circ}01'$, in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 32, T. 18 S., R. 21 W., $1\frac{1}{2}$ miles downstream from intake, about $2\frac{1}{2}$ miles west of Virden, and about $4\frac{1}{2}$ miles southeast of Duncan, Ariz.

Records available.— October 1914 to September 1915, July 1923 to September 1931, and May 1939 to September 1940 in reports of Geological Survey. January 1936 to December 1938 (at site about half a mile downstream and below wasteways) in files in office of Gila Water Commissioner, appointed by United States District Court for Arizona.

Extremes.— Maximum discharge during year, 66 second-feet Oct. 7 (gage height, 2.24 feet); no flow at times.
1939-40: Maximum discharge, 95 second-feet Aug. 5, 1939 (gage height, 2.87 feet); no flow at times.

Remarks.— Records good. Canal diverts from right bank of Gila River in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 4, T. 19 S., R. 21 W. (New Mexico), for irrigation in Duncan Valley in Arizona.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.7	0	35	17	9.5	18	24	15	10	0.1	8.2	11
2	2.1	.4	56	0	5.2	14	24	14	7.9	1.5	10	9.3
3	3.2	.8	36	0	.1	11	23	15	8.2	3.6	20	12
4	4.0	3.7	35	0	0	12	22	12	5.0	4.0	18	5.6
5	4.5	6.4	27	0	0	16	21	11	3.4	1.8	19	3.6
6	4.2	8.2	24	0	0	18	20	11	4.0	3.6	18	f13
7	17	8.2	28	0	0	16	20	11	3.7	3.8	14	1.4
8	6.5	9.0	30	.1	0	14	19	12	4.3	3.2	21	12
9	0	16	33	.2	8.3	12	19	12	5.2	3.4	14	4.7
10	0	21	35	13	16	12	17	11	4.6	2.7	7.7	4.3
11	0	24	14	21	15	15	20	9.0	3.6	2.4	9.9	7.7
12	.4	28	3.2	22	14	22	23	10	5.4	1.8	12	6.7
13	1.8	14	6.2	25	13	28	22	14	3.6	1.9	12	14
14	.9	9.3	11	29	13	27	21	16	2.7	1.6	20	15
15	.6	20	13	30	12	25	21	16	2.8	3.8	14	15
16	.8	22	13	31	12	23	20	15	2.8	6.1	18	15
17	.6	23	13	31	10	21	21	15	3.7	2.7	22	13
18	1.9	24	14	31	9.9	18	21	21	4.3	1.4	21	13
19	1.4	25	13	32	12	22	22	23	3.0	1.2	17	11
20	.9	25	12	33	13	29	20	22	2.1	3.2	12	7.7
21	.1	28	12	32	13	30	18	20	4.0	3.2	11	4.8
22	0	19	19	32	12	32	20	21	4.8	2.2	18	14
23	0	18	24	26	2.8	32	21	22	6.8	1.2	22	15
24	.2	23	24	12	0	15	22	23	3.8	2.9	18	15
25	3.0	25	15	12	5.9	25	23	23	1.1	8.4	11	14
26	2.3	26	.5	11	13	27	22	22	1.0	4.3	4.5	12
27	1.3	30	27	10	11	27	20	22	3.6	6.4	9.5	9.9
28	.5	32	43	12	13	28	21	19	.9	8.2	11	9.3
29	.4	33	38	9.7	17	27	20	17	.2	13	8.2	9.5
30	.2	35	36	9.0	-	26	17	14	0	13	7.1	16
31	.5	-	37	8.8	-	24	-	12	-	8.8	5.2	-
Month				Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet				
October.....				61.0	17	0	1.97	121				
November.....				557.0	35	0	18.6	1,100				
December.....				706.9	43	.5	22.8	1,400				
Calendar year				-	-	-	-	-				
January.....				489.8	33	0	15.8	972				
February.....				250.7	17	0	8.64	497				
March.....				686	32	11	21.5	1,320				
April.....				624	24	17	20.8	1,240				
May.....				500.0	23	9.0	16.1	962				
June.....				116.5	10	0	3.87	231				
July.....				125.4	13	.1	4.05	249				
August.....				433.3	22	4.5	14.0	859				
September.....				314.5	16	1.4	10.5	624				
Water year 1939-40.....				4,845.1	43	0	13.2	9,600				

f Computed from partly estimated gage height.

San Francisco River near Glenwood, N. Mex.

Location.- Water-stage recorder, lat. 33°15'05" (revised), long. 108°52'40", in NE¼NW¼ sec. 23, T. 12 S., R. 20 W., a quarter of a mile upstream from the hot springs and 6 miles south of Glenwood. Datum of gage is 4,552.06 feet above mean sea level (general adjustment of 1929).

Drainage area.- 1,660 square miles.

Records available.- October 1930 to February 1934 (at site 4½ miles upstream) and February 1934 to September 1940 in reports of Geological Survey. October 1927 to December 1931 (at site 4½ miles upstream) in reports of State engineer.

Average discharge.- 11 years (1928-31, 1932-40), 56.5 second-feet.

Extremes.- Maximum discharge during year, 6,000 second-feet July 25 (gage height, 7.32 feet), from rating curve extended above 800 second-feet by logarithmic plotting; minimum daily, 11 second-feet July 17-20.

1930-40: Maximum discharge, that of July 25, 1940; maximum gage height, 8.16 feet Sept. 16, 1931, site and datum then in use; minimum daily discharge, 7.7 second-feet June 21, 1934.

Remarks.- Records fair except those for days of no gage-height record, which are poor. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	19	29	30	29	31	104	65	27	24	41	268	44
2	20	28	29	29	454	102	67	34	20	31	186	44
3	20	28	28	29	216	90	63	38	18	25	75	51
4	19	28	27	29	95	86	53	41	16	20	214	42
5	19	28	27	30	81	79	49	42	16	19	90	263
6	18	27	27	33	65	69	47	35	14	16	49	506
7	91	27	27	32	47	65	46	30	15	15	130	164
8	320	27	28	30	42	61	44	27	16	16	44	77
9	75	29	27	29	38	61	38	29	14	16	29	a60
10	43	30	28	29	36	73	32	33	13	16	22	a45
11	35	29	28	29	34	114	32	33	13	13	88	a50
12	35	29	29	29	34	170	33	32	12	12	41	51
13	31	27	28	30	33	136	36	33	14	12	728	112
14	25	26	25	28	32	109	38	32	16	15	532	123
15	28	26	28	24	32	92	38	27	13	13	2,020	66
16	28	26	28	24	31	83	35	26	15	17	170	46
17	28	27	27	25	30	77	34	32	16	11	353	36
18	26	26	27	27	29	75	31	36	16	11	94	34
19	27	26	27	26	30	73	31	36	15	11	89	34
20	27	26	27	26	31	71	29	34	15	11	337	30
21	27	26	27	28	30	73	34	31	16	13	a130	39
22	29	26	27	30	34	75	36	34	15	15	96	252
23	29	26	28	28	44	75	37	26	34	16	84	126
24	30	28	28	27	53	77	34	24	26	14	77	123
25	31	29	32	29	44	79	32	29	22	594	118	60
26	32	28	32	28	46	79	30	25	23	450	84	46
27	32	28	30	25	55	81	32	28	22	107	66	42
28	31	28	24	27	65	86	37	28	22	46	56	46
29	30	34	22	27	81	79	38	27	46	33	48	219
30	28	31	23	26	-	75	35	27	49	36	42	307
31	28	-	24	26	-	69	-	26	-	38	41	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	1,262	320	18	40.7	2,500
November.....	855	34	26	27.8	1,650
December.....	852	32	22	27.5	1,690
Calendar year 1939.....	17,055.2	678	9.2	45.7	33,820
January.....	871	33	24	28.1	1,750
February.....	1,876	454	29	64.7	3,720
March.....	2,638	170	61	85.1	5,230
April.....	1,189	67	29	39.6	2,360
May.....	965	42	24	31.1	1,910
June.....	586	49	12	19.5	1,160
July.....	1,703	594	11	54.9	3,380
August.....	6,401	2,020	22	206	12,700
September.....	3,138	506	30	105	6,220
Water year 1939-40.....	22,314	2,020	11	61.0	44,250

Peak discharge.- July 25 (8 p.m.) 6,000 sec.-ft.; Aug. 1 (8 p.m.) 3,320 sec.-ft.; Aug. 13 (9 p.m.) 5,050 sec.-ft.; Aug. 15 (1 a.m.) 4,150 sec.-ft.; Aug. 15 (10 a.m.) 4,900 sec.-ft.; Sept. 5 (5 p.m.) 1,890 sec.-ft.

a No gage-height record; discharge computed on basis of records for Gila River near Gila, near Red Rock, and at New Mexico-Arizona State line.

San Francisco River at Clifton, Ariz.

Location.- Water-stage recorder, lat. 33°03'00", long. 109°17'45", in SWSE $\frac{1}{4}$ sec. 30, T. 4 S., R. 30 E., at Railroad Boulevard bridge at Clifton. Datum of gage is 3,430.5 feet above mean sea level (subject to correction for general adjustment of 1929).

Drainage area.- 2,790 square miles.

Records available.- July 1927 to October 1933, May 1935 to September 1940. (October 1910 to July 1918 (Fragmentary) at several sites, none of which was more than 2 miles upstream.

Average discharge.- 11 years (1927-33, 1935-40), 159 second-feet.

Extremes.- Maximum discharge during year, 8,700 second-feet Sept. 6 (gage height, 11.6 feet); minimum, 17 second-feet (regulated) June 16, 17 (gage height, 2.14 feet).
1927-40: Maximum discharge, 12,400 second-feet Feb. 8, 1937 (gage height, 12.7 feet); probably no flow at times in 1934; minimum discharge recorded, 8 second-feet June 18, 19, 1939.

Remarks.- Records good except those for period of unstable control, which are fair. Diversions above station for irrigation, mining, and municipal supply. During the year 51 discharge measurements were made.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	37	48	72	57	117	174	136	76	48	101	65	273
2	36	47	68	62	2,120	185	141	67	46	74	292	119
3	35	47	66	62	1,270	174	134	68	45	57	145	94
4	35	46	63	59	466	164	122	74	40	47	172	70
5	35	47	58	64	282	154	109	74	35	41	307	104
6	35	48	59	125	236	145	109	76	33	39	126	2,450
7	123	49	60	102	188	136	106	73	31	34	150	461
8	1,150	50	62	87	156	134	103	66	29	29	136	245
9	224	55	59	82	137	129	99	63	28	28	82	130
10	109	58	54	77	130	137	95	65	27	26	68	c70
11	78	59	58	73	118	168	93	66	27	28	60	c65
12	65	57	63	69	115	229	89	65	25	27	98	c60
13	58	53	63	68	112	245	87	59	24	23	78	c70
14	54	54	63	67	105	209	85	64	23	22	1,300	c110
15	50	54	63	66	103	181	88	62	26	26	2,150	c110
16	48	54	62	66	101	162	89	58	21	27	543	c85
17	49	55	62	64	96	145	94	58	22	29	395	76
18	49	55	63	63	92	143	90	60	26	28	227	78
19	49	55	63	64	89	145	85	66	27	24	136	90
20	49	54	59	62	87	143	78	66	27	23	631	70
21	49	53	62	64	84	139	75	63	28	22	272	74
22	49	53	62	64	87	141	79	74	47	24	190	161
23	50	58	64	65	180	143	85	93	192	28	212	225
24	51	60	63	65	254	150	88	73	109	47	198	156
25	61	66	78	64	166	148	85	65	72	41	296	142
26	57	64	95	63	137	150	78	65	57	477	253	99
27	52	63	77	62	146	152	75	59	49	256	149	87
28	51	62	71	62	182	162	75	58	40	124	112	90
29	49	72	64	60	158	160	79	56	98	90	61	204
30	49	80	58	60	-	154	78	53	266	74	62	524
31	48	-	57	60	-	145	-	51	-	69	55	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	2,934	1,150	35	94.6	5,820
November.....	1,676	80	46	55.9	3,320
December.....	1,991	95	54	64.2	3,950
Calendar year 1939.....	35,293	1,150	12	96.7	69,990
January.....	2,128	125	57	68.6	4,220
February.....	7,494	2,120	84	258	14,840
March.....	4,946	245	129	160	9,810
April.....	2,828	141	75	94.3	5,610
May.....	2,036	93	51	65.7	4,040
June.....	1,563	26	21	52.3	3,110
July.....	1,987	477	22	54.1	3,940
August.....	9,041	2,150	55	292	17,930
September.....	6,569	2,450	60	219	13,030
Water year 1939-40.....	45,188	2,450	21	123	89,620

Peak discharge.- Oct. 8 (4 a.m.) 3,480 sec.-ft.; Feb. 2 (7 a.m.) 2,920 sec.-ft.; Aug. 14 (6:30 a.m.) 3,850 sec.-ft.; Aug. 15 (7 p.m.) 3,750 sec.-ft.; Aug. 15 (6 a.m.) 3,290 sec.-ft.; Sept. 6 (10:30 a.m.) 8,700 sec.-ft.

c Control unstable.

San Simon Creek near San Simon, Ariz.

Location.- Water-stage recorder, lat. $32^{\circ}13'$, long. $109^{\circ}10'$, in SW $\frac{1}{4}$ sec. 10, T. 14 S., R. 31 E., $4\frac{1}{2}$ miles southeast of San Simon.

Drainage area.- 803 square miles.

Records available.- June 1931 to October 1933, May 1935 to September 1940. August 1919 to September 1925, at site $3\frac{1}{2}$ miles downstream.

Average discharge.- 13 years (1919-25, 1931-33, 1935-40), 5.3 second-feet.

Extremes.- Maximum discharge during year, 4,500 second-feet June 29 (gage height, 10.9 feet), from rating curve extended above 400 second-feet on basis of slope-area measurements at 1,900 and 2,250 second-feet; no flow during most of year.
1919-25, 1931-40: Maximum discharge, 5,350 second-feet July 21, 1923; no flow during most of each year.

Remarks.- Records fair. Small diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	0	0	0		0		0	0	0	0
2	0		0	0	0		0		0	0	2	0
3	0	0	0	0	0		0		0	0	76	3
4	0	0	0	0	0		0		0	0	223	0
5	0	0	0	4	0		4		0	0	19	0
6	0	0	0	0	0		0		0	0	0	20
7	17	0	0	0	0		0		0	0	94	0
8	9	0	0	0	0		0		0	0	7	0
9	0	0	0	0	0		0		0	0	0	0
10	0	0	0	0	0		0		0	0	0	0
11	0	0	0	0	0		0		0	0	0	0
12	0	0	0	0	0		0		0	0	0	0
13	0	0	0	0	0		0		0	0	0	0
14	0	0	0	0	0		0		0	0	0	0
15	0	0	0	0	0		0		0	0	298	0
											174	0
16	0	0	0	0	0		0		0	0	18	0
17	0	17	0	0	0		0		0	0	0	0
18	0	0	0	0	0		0		0	0	0	20
19	0	0	0	0	0		0		0	0	0	32
20	0	0	0	0	0		0		0	0	0	0
21	0	0	0	0	0		0		0	0	0	290
22	0	0	0	0	0		0		0	0	0	529
23	1	0	0	0	0		5		0	0	0	17
24	3	17	5	0	0		0		38	257	0	0
25	1	1	17	0	0		0		30	6	0	0
26	2	0	0	0	0		0		19	23	0	0
27	0	0	0	0	0		0		2	1	0	0
28	0	0	0	0	0		0		0	16	0	0
29	0	17	0	0	0		0		692	0	0	0
30	0	0	0	0	0		0		21	0	0	0
31	0	-	0	0	-		-		-	0	0	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						33	17	C	1.1	65		
November.....						52	17	C	1.7	103		
December.....						22	17	C	.7	44		
Calendar year 1939.....						1,188	310	C	3.3	2,350		
January.....						4	4	C	.1	7.9		
February.....						42	39	C	1.4	83		
March.....						0	0	C	0	0		
April.....						9	5	C	.3	18		
May.....						0	0	C	0	0		
June.....						802	692	C	26.7	1,590		
July.....						305	257	C	9.8	605		
August.....						911	298	C	29.4	1,810		
September.....						911	529	C	30.4	1,810		
Water year 1939-40.....						3,091	692	C	8.4	6,140		

Peak discharge.- June 29 (6 p.m.) 4,500 sec.-ft.; July 24 (5:30 p.m.) 2,100 sec.-ft.; Aug. 3 (9:30 p.m.) 1,080 sec.-ft.; Aug. 7 (8 p.m.) 1,260 sec.-ft.; Sept. 21 (10:30 p.m.) 2,440 sec.-ft.; Sept. 22 (7:30 a.m.) 1,300 sec.-ft.

San Simon Creek near Solomonville, Ariz.

Location.— Water-stage recorder, lat. 32°48', long. 109°38', in NW 1/4 sec. 25, T. 7 S., R. 28 E., 1 mile southwest of Solomonville and 2 1/2 miles upstream from mouth. Datum of gage is 2,960.15 feet above mean sea level (general adjustment of 1929).

Drainage area.— 2,280 square miles.

Records available.— June 1931 to September 1932, May 1935 to September 1940.

Extremes.— Maximum discharge during year, 6,080 second-feet Sept. 5 (gage height, 11.0 feet); no flow on many days.

1931-40: Maximum discharge, 27,500 second-feet Aug. 9, 1931 (gage height, 19.0 feet), by slope-area method; no flow on many days in each year.

Remarks.— Records fair except those below 10 second-feet, which are poor. Small diversions above station for irrigation. Records do not include waste water from San Jose canal, which diverts from Gila River.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	0		0				0	33	4	67
2	0	0	0		224				0	0	7	0
3	0	0	0		27				0	0	96	0
4	0	0	0		0				0	0	292	0
5	0	0	0		0				0	0	249	466
6	0	0	0		0				0	0	116	222
7	140	0	0		0				0	0	1	0
8	782	0	0		0				0	0	0	0
9	80	0	0		0				0	0	10	0
10	0	0	0		0				0	0	0	0
11	0	0	0		0				0	0	41	0
12	0	0	0		0				0	0	1	0
13	0	0	0		0				0	0	95	0
14	0	0	0		0				0	0	207	0
15	0	0	0		0				0	0	143	0
16	0	0	0		0				0	0	254	0
17	0	53	0		0				0	0	74	0
18	0	0	0		0				0	0	41	1
19	0	0	0		0				0	0	al	0
20	0	0	0		0				0	0	0	4
21	0	0	0		0				0	0	0	80
22	0	0	0		0				25	0	141	211
23	0	0	0		0				106	0	18	462
24	0	0	0		0				10	0	1	79
25	28	0	7		0				0	21.6	5	7
26	0	0	0		0				0	126	2	0
27	0	0	0		0				0	46	0	0
28	0	0	0		0				0	0	0	46
29	0	117	0		0				0	0	0	11
30	0	86	0		-				460	0	0	227
31	0	-	0		-				-	0	52	-
Month						Second-foot-days	Maximum	Minimum	Mean		Run-off in acre-feet	
October.....						1,030	782	0	37.2		2,040	
November.....						176	117	0	5.9		349	
December.....						7	7	0	.2		14	
Calendar year 1939.....						2,837	782	0	7.8		5,620	
January.....						0	0	0	0		0	
February.....						251	224	0	8.7		498	
March.....						0	0	0	0		0	
April.....						0	0	0	0		0	
May.....						0	0	0	0		0	
June.....						601	460	0	20.0		1,190	
July.....						421	216	0	17.6		835	
August.....						1,751	292	0	56.5		3,470	
September.....						1,885	466	0	67.8		3,750	
Water year 1939-40.....						6,120	782	0	16.7		12,150	

Peak discharge.— Oct. 8 (4:05 a.m.) 1,660 sec.-ft.; June 30 (10:30 a.m.) 2,410 sec.-ft.; Sept. 5 (10:50 p.m.) 6,080 sec.-ft.; Sept. 22 (7:00 p.m.) 895 sec.-ft.; Sept. 23 (5:15 a.m.) 720 sec.-ft. No gage-height record; discharge computed on basis of record for preceding and following days, weather records, and engineers' notes.

San Carlos River near Peridot, Ariz.

Location.- Water-stage recorder, lat. $33^{\circ}16'$, long. $110^{\circ}26'$, in sec. 7, T. 2 S., R. 19 E., unsurveyed, on San Carlos Indian Reservation, at railroad bridge at head of San Carlos Reservoir, 2 miles south of Peridot. Datum of gage is 2,506.6 feet above mean sea level (Southern Pacific Railroad bench mark).

Drainage area.- 1,070 square miles.

Records available.- March 1929 to September 1940. August 1910 to January 1911, April 1914 to September 1915 (fragmentary), at site $5\frac{1}{2}$ miles downstream.

Average discharge.- 11 years, 48.3 second-feet.

Extremes.- Maximum discharge during year, 6,000 second-feet Aug. 3 (gage height, 6.70 feet); no flow June 15-17.

1929-40: Maximum discharge, 29,400 second-feet Feb. 7, 1937 (gage height, 10.7 feet), from rating curve extended above 15,000 second-feet on basis of records of inflow of San Carlos Reservoir; no flow on several days of most years.

Remarks.- Records good except those for periods of unstable control, which are fair, and those for periods of no gage-height record, which are poor. Small diversions above station for irrigation. During the year 40 discharge measurements were made.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2	4	12	12	90	23	8	2	1	0.5	1	9
2	2	2	10	12	c1,370	20	8	2	.5	.5	27	6
3	2	1	8	11	c480	16	7	2	.5	a.5	c560	65
4	2	1	8	11	146	15	6	2	.5	a.5	c200	21
5	2	2	8	12	68	13	8	2	.5	a.5	238	8
6	2	2	8	88	48	12	8	2	.5	a.5	a10	48
7	2	2	8	55	39	10	6	2	.5	a.5	a4	14
8	75	2	8	32	32	8	6	2	.5	a.5	a3	4
9	25	4	8	23	26	8	5	1	.5	a.5	a3	3
10	10	7	10	21	25	10	6	1	.5	a.5	a2	3
11	6	8	10	20	22	12	6	1	.5	.5	2	3
12	4	6	9	20	16	12	6	.5	.5	a.5	2	18
13	3	6	8	20	16	12	6	.5	.5	a.5	2	8
14	3	6	8	61	13	11	6	.5	.5	a.5	1	4
15	3	6	8	40	12	12	6	a.5	0	a.5	20	3
16	3	6	9	37	10	12	6	a.5	0	228	a3	4
17	2	6	9	29	8	10	6	a.5	0	4	a2	4
18	2	6	9	24	7	10	6	a.5	.5	1	a1	6
19	1	6	9	20	6	10	6	a.5	1	1	a1	4
20	1	6	9	16	8	10	5	a.5	1	1	3	6
21	1	6	10	14	9	8	4	1	8	1	1	3
22	2	7	10	12	9	8	3	2	.5	.5	1	7
23	2	8	10	10	11	8	3	1	c30	.5	c260	9
24	2	8	10	9	c60	8	3	.5	c130	c180	c270	7
25	2	8	15	8	55	8	2	.5	c40	c150	c110	7
26	3	7	25	a8	a50	10	a2	a.5	a4	8	a5	3
27	3	7	21	a8	a40	10	a2	a.5	a2	2	a4	2
28	3	8	20	a8	a30	8	a2	a.5	a1	2	a3	4
29	4	115	17	a7	a25	8	a2	a1	a1	1	a3	c350
30	4	23	14	a7	-	8	a2	a1	a.5	1	a3	55
31	4	14	a7	-	-	8	a1	a1	-	1	a3	-
Month					Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet			
October.....					183	75	1	5.9	363			
November.....					284	113	1	9.5	563			
December.....					342	25	8	11.0	678			
Calendar year 1939.....					9,508.5	1,150	.5	26.1	18,870			
January.....					662	88	7	21.4	1,310			
February.....					2,731	1,370	8	94.2	5,420			
March.....					338	23	9	10.9	670			
April.....					152	8	2	5.1	301			
May.....					33.0	2	.5	1.06	65			
June.....					226.5	150	0	7.55	449			
July.....					589.5	228	.5	19.0	1,170			
August.....					1,768	580	1	57.0	3,510			
September.....					688	350	2	22.9	1,360			
Water year 1939-40.....					7,997.0	1,370	0	21.8	15,860			

Peak discharge.- Feb. 2 (7:30 a.m.) 2,860 sec.-ft.; Aug. 3 (8 p.m.) 6,000 sec.-ft.

a No gage-height record; discharge computed on basis of discharge measurements, partial gage-height record, record for preceding and following days, and weather records.

c Unstable control.

San Pedro River at Palominas, Ariz.

Location.- Water-stage recorder, lat. $31^{\circ}23'$, long. $110^{\circ}07'$, in SE $\frac{1}{4}$ sec. 33. T. 23 S., R. 22 E., at bridge half a mile east of Palominas, 4 miles downstream from international boundary, and 12 miles southwest of Bisbee. Datum lowered 4.20 feet Oct. 10, 1939.

Drainage area.- 741 square miles (revised), of which 649 square miles are in Mexico.

Records available.- May 1930 to October 1933, May 1935 to September 1940.

Extremes.- Maximum discharge during year, 22,000 second-feet Aug. 14 (gage height, 16.45 feet), by slope-area method; minimum, 0.5 second-foot June 19.
1930-40: Maximum discharge, that of Aug. 14, 1940; no flow June 29, July 1, 1930.
Maximum stage known, about 24.2 feet, present datum, from floodmarks, Sept. 28, 1926 (discharge not determined).

Remarks.- Records good except those above 1,000 second-feet, which are fair. No diversions above station in Arizona and probably none in Mexico.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6	4	8	7	10	7	3	3	1	5	12	23
2	6	4	7	7	53	7	4	3	1	5	38	27
3	6	4	6	7	19	7	4	3	1	4	44	21
4	6	4	6	7	12	7	4	3	1	4	575	14
5	6	4	6	9	9	6	4	3	.9	4	289	12
6	6	4	6	12	8	6	4	2	.9	4	108	11
7	8	4	6	10	8	6	4	2	.9	4	27	10
8	10	5	6	8	7	5	4	2	.9	3	28	9
9	8	5	6	8	7	5	4	2	.9	3	13	9
10	7	5	6	7	7	5	4	2	.9	3	11	8
11	6	4	6	6	7	4	4	2	.8	3	53	9
12	6	5	6	6	6	4	3	2	.8	4	243	10
13	6	4	6	6	6	4	3	2	.8	4	1,560	9
14	6	5	6	6	6	4	3	2	.8	3	6,420	7
15	5	5	6	6	6	4	3	2	.8	5	203	7
16	6	5	6	6	6	4	3	2	.8	19	53	6
17	6	6	6	6	6	4	3	2	.7	54	32	6
18	6	6	6	6	6	4	3	2	.7	22	608	14
19	5	6	6	6	6	4	3	2	.7	7	305	11
20	5	6	6	6	6	4	2	2	.7	6	70	9
21	5	6	6	6	6	4	2	2	.9	10	34	7
22	5	6	6	7	11	4	2	3	1	6	45	72
23	5	6	6	7	40	4	3	3	50	76	322	59
24	5	8	6	6	15	3	3	2	185	92	550	31
25	5	7	8	6	10	4	3	2	22	754	83	13
26	5	7	7	6	8	3	3	2	11	46	38	8
27	4	7	7	6	8	3	3	2	14	103	27	24
28	4	7	7	6	8	3	3	2	8	30	22	162
29	4	10	7	7	7	4	3	1	6	136	20	50
30	4	10	7	7	7	4	3	1	6	57	19	130
31	4	-	7	7	-	4	-	1	-	18	18	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	176	10	4	5.7	349
November.....	169	10	4	5.6	335
December.....	197	8	6	6.4	391
Calendar year 1939.....	14,155.5	2,610	.3	38.8	28,070
January.....	213	12	6	6.9	422
February.....	314	53	6	10.8	623
March.....	141	7	3	4.5	280
April.....	97	4	2	3.2	192
May.....	66	3	1	2.1	131
June.....	319.9	185	.7	10.7	635
July.....	1,474	734	3	47.5	2,920
August.....	11,870	6,420	11	33	23,540
September.....	788	162	6	26.3	1,560
Water year 1939-40.....	15,824.9	6,420	.7	43.2	31,380

Peak discharge.- Aug. 14 (2:30 a.m.) 22,000 sec.-ft.

San Pedro River at Charleston, Ariz.

Location.— Water-stage recorder, lat. 31°39', long. 110°11', in SW¼ sec. 35, T. 20 S., R. 21 E., unsurveyed, in Spanish land grant of San Juan de las Boquillas y Nogales, at Charleston dam site, three-quarters of a mile north of Charleston and 6 miles upstream from Babocomari River. Datum of gage is 3,923.0 feet above mean sea level (Southern Pacific Railroad bench mark).

Drainage area.— 1,250 square miles (revised), of which 696 square miles are in Mexico.

Records available.— May 1928 to December 1933, May 1935 to September 1940. 1904 to 1906 and 1910 to 1928, at several sites upstream or downstream.

Average discharge.— 23 years (1915-33, 1935-40), 72.5 second-feet.

Extremes.— Maximum discharge during year, 31,000 second-feet Aug. 13 (gage height, 13.1 feet), from rating curve extended above 8,500 second-feet on basis of slope-area determination at gage height 21.9 feet; minimum, 4 second-feet June 15-21.
1928-40: Maximum discharge, that of Aug. 13, 1940; minimum, 1 second-foot June 27, 1939.

Maximum discharge known, about 98,000 second-feet Sept. 28, 1926 (gage height, 21.9 feet, from floodmarks), by slope-area measurement.

Remarks.— Records good except those for period of no gage-height record, which are fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	13	22	13	68	19	14	9	6	16	34	202
2	16	12	22	16	163	19	14	10	5	14	30	a60
3	16	12	22	17	40	20	14	9	5	11	183	a40
4	16	13	22	18	32	18	14	8	5	9	383	a30
5	16	13	17	19	24	18	14	8	5	8	820	81
6	15	14	19	20	22	18	12	10	5	8	217	53
7	144	14	18	24	24	17	12	9	5	8	64	26
8	33	16	16	19	26	17	12	9	5	8	36	25
9	20	17	17	17	26	16	12	10	5	8	34	25
10	17	17	16	16	26	16	13	10	5	8	32	24
11	16	16	16	16	26	15	11	10	5	8	133	23
12	16	16	17	16	22	15	10	10	5	10	343	24
13	16	16	16	22	22	16	10	9	5	6	4,110	22
14	16	15	17	20	22	15	10	8	5	5	9,100	21
15	17	15	18	16	22	16	10	8	4	6	410	20
16	18	14	18	14	24	16	9	8	4	964	145	19
17	17	16	17	15	20	16	10	9	4	488	81	19
18	16	15	19	15	20	16	9	9	4	46	676	89
19	16	16	19	16	19	17	8	9	4	17	480	81
20	16	16	19	16	18	17	8	8	4	12	158	23
21	16	16	22	14	19	17	9	8	4	10	100	21
22	16	17	19	14	22	17	10	10	9	14	104	20
23	17	18	16	17	34	16	10	10	50	120	305	44
24	17	20	15	18	40	16	10	10	194	585	516	39
25	17	20	17	20	28	16	9	8	20	903	224	34
26	17	22	17	22	24	14	8	8	47	208	81	27
27	16	20	18	22	22	14	10	8	22	137	56	24
28	16	20	16	22	22	14	9	8	24	91	49	87
29	16	24	15	20	19	14	9	7	18	125	49	140
30	15	24	14	20	-	14	e	7	18	242	55	151
31	14	-	13	20	-	14	-	6	-	56	96	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	650	144	14	21.0	1,290
November.....	497	24	12	16.6	986
December.....	549	22	13	17.7	1,090
Calendar year 1939.....	24,720	3,080	2	67.7	49,050
January.....	554	24	13	17.9	1,100
February.....	896	163	18	30.9	1,780
March.....	503	20	14	16.2	998
April.....	318	14	8	10.6	631
May.....	270	10	6	8.7	536
June.....	501	194	4	16.7	994
July.....	4,151	964	5	134	8,230
August.....	19,104	9,100	30	615	37,890
September.....	1,494	202	19	49.8	2,960
Water year 1939-40.....	29,487	9,100	4	80.6	58,480

Peak discharge.— July 16 (6:30 p.m.) 10,700 sec.-ft.; July 24 (7 p.m.) 2,760 sec.-ft.; July 25 (6 a.m.) 2,970 sec.-ft.; Aug. 4 (12 p.m.) 2,310 sec.-ft.; Aug. 13 (9:35 p.m.) 31,000 sec.-ft.; Aug. 14 (7:20 a.m.) 24,500 sec.-ft.

a No gage-height record; discharge computed on basis of records for station at Palominas.

San Pedro River near Mammoth, Ariz.

Location.- Water-stage recorder, lat. $32^{\circ}44'$, long. $110^{\circ}39'$, in NE $\frac{1}{4}$ sec. 18, T. 8 S., R. 17 E., at highway bridge $\frac{1}{2}$ miles north of Mammoth. Datum of gage is 2,307.06 feet above mean sea level (general adjustment of 1929).

Drainage area.- 3,610 square miles (revised).

Records available.- May 1931 to September 1940.

Extremes.- Maximum discharge during year, 50,000 second-feet Aug. 14 (gage height, 12.7 feet), from rating curve based on four float-velocity measurements between 20,000 and 41,000 second-feet; no flow during part of year.

1931-40: Maximum discharge, that of Aug. 14, 1940; no flow during part of each year. Maximum flood known occurred Sept. 28, 1926 (discharge, 90,000 second-feet, computed on basis of peak discharge of San Pedro River at Charleston and of Gila River at Kelvin).

Remarks.- Records fair except those for periods of no gage-height record or unstable control, which are poor. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	1	0	1				0	0	5	e10
2	0	0	1	0	8				0	0	e80	e125
3	0	0	1	0	150				0	0	e200	94
4	0	0	1	0	75				0	0	e130	19
5	0	0	1	2	25				0	0	e250	5
6	0	0	1	1	15				0	0	270	9
7	680	0	1	0	5				0	0	e200	e80
8	140	0	1	0	5				0	0	e50	e55
9	1	0	1	0	5				0	0	e30	e30
10	0	0	1	0	2				0	2	e25	e25
11	0	0	1	0	0				0	1	e40	e25
12	0	0	1	0	0				0	0	e50	e100
13	0	0	1	0	0				0	0	e60	77
14	0	0	1	0	0				0	0	19,200	1
15	0	0	1	0	0				0	0	1,590	0
16	0	0	1	0	0				0	10	424	0
17	0	0	1	0	0				0	650	263	0
18	0	0	1	0	0				0	325	e360	2
19	0	0	1	0	0				0	45	e770	4
20	0	0	1	0	0				0	10	e320	2
21	0	0	1	0	0				5	0	e95	e35
22	0	0	1	0	0				0	0	e40	e210
23	0	0	1	0	30				5	0	e75	e200
24	0	0	1	0	20				5	50	876	e45
25	0	0	0	0	10				5	500	e290	e35
26	0	0	0	0	10				0	580	e250	e25
27	0	0	0	0	5				200	500	e120	e20
28	0	0	0	0	5				50	330	e50	12
29	0	2	0	0	1				10	80	e25	9
30	0	1	0	0	-				0	2	7	12
31	0	-	0	0	-				-	7	1	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						821	680	0	26.5	1,630		
November.....						3	2	0	.1	6.0		
December.....						24	1	0	.8	48		
Calendar year 1939.....						28,539	4,950	0	78.2	56,610		
January.....						3	2	0	-1	6.0		
February.....						372	150	0	12.8	738		
March.....						0	0	0	0	0		
April.....						0	0	0	0	0		
May.....						0	0	0	0	0		
June.....						280	200	0	9.3	555		
July.....						3,092	650	0	99.7	6,130		
August.....						26,146	19,200	1	843	51,860		
September.....						1,266	210	0	42.2	2,510		
Water year 1939-40.....						32,007	19,200	0	17.5	63,480		

Peak discharge.- Aug. 14 (9:25 a.m.) 50,000 sec.-ft.; Aug. 14 (7 p.m.) 28,800 sec.-ft.

e Unstable control.

Note.- No gage-height record Oct. 1 to Aug. 6 except Oct. 7-9, July 17-19, 26, 27, Aug. 2-5; discharge computed on basis of partial gage-height graph, weather records, engineers' observations, information from local residents, and comparison with records on Gila River below Colidge Dam and at Kelvin and on Aravaipa Creek.

San Pedro River at Winkelman, Ariz.

Location.- Measuring section, lat. $32^{\circ}59'$, long. $110^{\circ}47'$, in SW $\frac{1}{4}$ sec. 23, T. 5 S., R. 15 E., at mouth, 1 mile west of Winkelman.

Drainage area.- 4,480 square miles (revised).

Records available.- April to August 1890 (monthly discharge only, published as San Pedro River at Dudleyville, Ariz.), December 1928 to September 1940 (discharge measurements only, of which those for October 1933 to September 1934 were published as miscellaneous measurements).

Remarks.- Diversions above station for irrigation.

Discharge measurements, in second-feet, water year October 1939 to September 1940

Oct. 2	0.1	Jan. 2	11.6	Mar. 11	1.36	June 3	0	Aug. 30	26.7
13	6.16	13	7.58	21	1.50	21	1.67	Sept. 3	161
Nov. 1	1.85	Feb. 2	98.5	Apr. 1	5.88	July 2	5.17	13	110
15	1.77	5	39.3	20	2	11	5	14	27.6
Dec. 1	10.2	16	11.4	May 1	.50	26	385	20	17.9
15	8.09	Mar. 1	12.1	21	0	Aug. 2	3.88		

Aravaipa Creek near Feldman, Ariz.

Location.- Water-stage recorder, lat. $32^{\circ}50'$, long. $110^{\circ}38'$, in NW $\frac{1}{4}$ sec. 9, T. 7 S., R. 17 E., 6 miles upstream from mouth and 6 miles southeast of Feldman.

Drainage area.- 540 square miles (revised).

Records available.- May 1931 to September 1940. April 1919 to September 1921, at site 6 miles downstream.

Extremes.- Maximum discharge during year, 5,480 second-feet Sept. 21 (gage height, 8.6 feet); minimum, 0.3 second-foot Aug. 30.
1931-40: Maximum discharge, 10,000 second-feet Aug. 15, 1935 (gage height, 10.9 feet), from rating curve extended above 3,000 second-feet; minimum, that of Aug. 30, 1940.

Greatest flood known, 20,000 second-feet Aug. 2, 1919, at former site.

Remarks.- Records below 20 second-feet good, those between 20 and 100 second-feet fair, and those during periods of unstable control or above 100 second-feet poor. Several diversions above and below station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5	5	12	13	9	19	8	7	4	14	0.7	15
2	6	5	12	12	105	17	9	7	3	10	.6	6
3	6	5	12	11	35	15	8	6	3	7	282	34
4	6	6	12	10	21	13	7	6	3	4	286	11
5	6	6	11	11	16	13	7	6	3	3	12	10
6	6	6	11	11	15	12	7	6	3	3	94	179
7	772	6	11	11	14	12	7	7	3	2	31	10
8	23	5	10	11	14	11	7	6	3	3	48	10
9	11	8	10	10	13	11	6	6	4	4	11	8
10	10	11	10	11	10	11	5	5	4	4	53	7
11	10	12	10	11	10	11	5	5	3	3	73	39
12	10	12	9	11	9	11	6	5	3	3	102	49
13	9	12	9	11	9	11	7	5	3	3	11	29
14	9	11	10	12	8	11	7	5	3	3	185	8
15	7	9	10	12	8	10	7	5	3	3	6	7
16	6	8	10	12	8	10	7	6	3	83	4	8
17	4	8	10	11	8	10	7	5	3	39	3	9
18	4	9	9	10	8	9	7	6	3	5	2	10
19	3	8	9	10	7	8	7	6	3	3	2	12
20	3	8	9	10	7	8	7	5	3	3	2	8
21	3	8	10	10	7	7	7	6	3	3	1	229
22	2	8	11	10	9	8	7	7	3	2	1	25
23	2	9	11	10	c650	9	8	6	c480	3	.9	7
24	3	10	12	10	c90	8	9	6	c125	3	1	7
25	5	10	37	9	c60	9	8	5	c35	2	1	7
26	6	10	38	8	c50	9	8	4	c150	13	.9	6
27	6	11	29	8	c40	8	8	4	c285	27	.6	6
28	6	11	27	7	c30	8	9	3	20	2	.5	6
29	6	12	21	7	c25	7	8	3	20	1	.4	6
30	6	12	18	7	-	7	9	4	19	.9	.4	6
31	6	-	14	7	-	7	-	3	-	.8	.6	-
Month					Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet			
October.....					967	772	2	31.2	1,920			
November.....					261	12	5	8.7	518			
December.....					434	38	9	14.0	861			
Calendar year 1939.....					5,491	772	1	15.0	10,890			
January.....					314	13	7	10.1	623			
February.....					1,295	650	7	44.7	2,570			
March.....					320	19	7	10.3	635			
April.....					219	9	5	7.3	434			
May.....					166	7	3	5.4	329			
June.....					1,203	480	3	40.1	2,390			
July.....					259.7	83	.8	8.38	515			
August.....					1,216.6	286	.4	39.2	2,410			
September.....					774	229	6	25.8	1,540			
Water year 1939-40.....					7,429.3	772	.4	20.5	14,740			

Peak discharge.- Oct. 7 (3 p.m.) 4,470 sec.-ft.; Oct. 7 (5:30 p.m.) 4,920 sec.-ft.; Feb. 23 (7 a.m.) 3,080 sec.-ft.; June 23 (3 a.m.) 2,600 sec.-ft.; Sept. 21 (8:10 p.m.) 5,480 sec.-ft.
c Control unstable.

Florence-Casa Grande canal near Florence, Ariz.

Location.- Water-stage recorder and Parshall flume, lat. 33°05', long. 111°17' (revised) in NE¼ sec. 14 (revised), T. 4 S., R. 10 E., at China Wash, 3 miles downstream from Ashurst-Hayden Dam and head and 6½ miles northeast of Florence.

Records available.- January 1928 to September 1940.

Remarks.- Records given herein are those of discharge at gaging station less flow pumped from wells into canal in reach between head and gaging station. Records represent flow diverted from Gila River at Ashurst-Hayden Dam except for water wasted by sluicing or lost from canal between head and gaging station. All sluicing is done above station. Discharge at gaging station computed on basis of gage heights and rating for Parshall flume; that of pumps on basis of records of pumpage.

Canal diverts water from left bank of Gila River at Ashurst-Hayden Dam in NW¼ sec. 8, T. 4 S., R. 11 E., for irrigation of lands under San Carlos Project. Most of the diverted water passed through San Carlos Reservoir and was released from Coolidge Dam; the remainder originated below Coolidge Dam, mostly from San Pedro River Basin.

Cooperation.- Records furnished by Office of Indian Affairs; records of daily diversion are available in files of that organization at Coolidge, Ariz.

Monthly diversions, in second-feet, water year October 1939 to September 1940

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	522	75	176	10,850
November.....	210	151	167	9,920
December.....	272	128	188	11,590
Calendar year 1939....	810	10	185	123,700
January.....	172	108	139	8,520
February.....	567	0	209	12,020
March.....	279	189	239	14,720
April.....	295	240	269	16,010
May.....	261	168	234	14,370
June.....	427	63	159	9,430
July.....	569	31	168	10,330
August.....	744	57	399	23,920
September.....	578	160	320	19,060
Water year 1939-40....	744	0	221	160,700

Note.- Waste water returned to river through sluice gates and not included in this table amounted to about 4,000 acre-feet for the water year 1939-40.

Queen Creek near Florence Junction, Ariz.

Location.- Water-stage recorder, lat. 33°17'15", long. 111°19'30", in SW¼ sec. 4, T. 2 S., R. 10 E., at highway bridge, three-quarters of a mile downstream from mouth of Whitlow canyon, 1½ miles north of Florence Junction, and ¾ mile downstream from Whitlow dam site. Datum of gage is 1,918.77 feet above mean sea level (unadjusted).

Drainage area.- 191 square miles.

Records available.- August 1939 to September 1940. January 1896 to August 1899 and February 1915 to September 1920, at several sites at or near Whitlow dam site (drainage area, 143 square miles).

Extremes.- Maximum discharge during year, 1,110 second-feet Oct. 26 (gage height, 5.75 feet); no flow most of year.

1939-40: Maximum discharge, 13,200 second-feet Aug. 7, 1939 (gage height, 10.6 feet, from floodmarks), by slope-area method; no flow most of each year.

Maximum discharge observed at Whitlow dam site, 10,000 second-feet Aug. 1, 1919.

Remarks.- Records good except those below 5 second-feet, which are fair. Small diversions upstream.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0				11				0	0	0	
2	0				24				0	0	0	
3	0				0				0	0	50	
4	0				0				0	0	8	
5	0				0				0	0	2	
6	0				0				0	0	0	
7	0				0				0	0	5	
8	0				0				0	0	0	
9	0				0				0	0	0	
10	0				0				0	0	0	
11	0				0				0	0	0	
12	0				0				0	0	0	
13	0				0				0	0	0	
14	0				0				0	0	0	
15	0				0				0	0	0	
16	0				0				0	0	0	
17	0				0				0	0	0	
18	0				0				0	0	0	
19	0				0				0	0	0	
20	0				0				0	0	0	
21	0				0				0	0	0	
22	0				0				0	0	0	
23	0				5				0	0	0	
24	0				0				0	9	0	
25	43				0				0	2	1	
26	60				0				12	0	0	
27	0				0				2	0	0	
28	0				0				0	0	0	
29	0				0				0	0	0	
30	0				-				0	0	0	
31	0				-				-	0	0	
Month					Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet			
October.....					103	60	0	3.3	204			
November.....					0	0	0	0	0			
December.....					0	0	0	0	0			
Calendar year 1939.....					370	95	0	1.0	734			
January.....					0	0	0	0	0			
February.....					40	24	0	1.4	79			
March.....					0	0	0	0	0			
April.....					0	0	0	0	0			
May.....					0	0	0	0	0			
June.....					14	12	0	.5	28			
July.....					11	9	0	.4	22			
August.....					69	50	0	2.2	137			
September.....					0	0	0	0	0			
Water year 1939-40.....					237	60	0	.6	470			

Peak discharge.- Oct. 25 (9:15 p.m.) 805 sec.-ft.; Oct. 26 (2 a.m.) 1,110 sec.-ft.; Aug. 3 (10:45 p.m.) 860 sec.-ft.

Santa Cruz River at Continental, Ariz.

Location.- Water-stage recorder, lat. $31^{\circ}51'$, long. $110^{\circ}59'$, in NE $\frac{1}{4}$ sec. 23, T. 18 S., R. 13 E., in Spanish land grant of San Ignacio de la Canoa, at highway bridge at Continental.

Drainage area.- 1,640 square miles, of which 403 square miles are in Mexico.

Records available.- May to September 1940.

Extremes.- Maximum discharge during period, 12,100 second-feet Aug. 14 (gage height, 8.85 feet) by float-area method; no flow during greater part of period.

Remarks.- Records poor prior to Aug. 7 except those for July 23, which are excellent; records good after Aug. 7 except those below 5 second-feet, which are poor. Several small diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
1									0	0	0	11	
2									0	0	0	0	
3									0	0	0	2	
4									0	0	0	0	
5									0	0	200	0	
6									0	0	1	0	
7									0	0	0	0	
8									0	0	0	0	
9									0	0	0	0	
10									0	0	0	0	
11									0	0	226	0	
12									0	0	10	846	
13									0	0	1,520	4	
14									0	0	3,080	0	
15									0	0	0	0	
16									0	0	0	0	
17									0	50	0	0	
18									0	15	0	0	
19									0	0	32	0	
20										0	2	0	
21									} 25	0	0	0	
22										0	13	0	0
23											c25	0	0
24										0	c13	0	0
25										0	198	0	0
26									3	0	0	0	
27									0	0	0	0	
28									0	1	0	0	
29									0	0	0	7	
30									0	0	0	8	
31									-	0	0	-	
Month						Second-foot-days	Maximum	Minimum	Mean		Run-off in acre-feet		
October.....													
November.....													
December.....													
Calendar year													
January.....						-	-	-	-		-		
February.....						-	-	-	-		-		
March.....						-	-	-	-		-		
April.....						-	-	-	-		-		
May.....						0	0	0	0		0		
June.....						103	25	0	3.4		204		
July.....						305	198	0	9.8		605		
August.....						5,084	3,080	0	164		10,080		
September.....						878	846	0	29.3		1,740		
The period.....						-	-	-	-		12,630		

Peak discharge.- Aug. 13 (8:30 p.m.) 10,600 sec.-ft.; Aug. 14 (2:45 a.m.) 12,100 sec.-ft.; Sept. 12 (8 p.m.) 1,780 sec.-ft.

c Computed from graph based on eight staff-gage readings and three discharge measurements.

Note.- Discharge for periods of no gage-height record, May 1 to July 22, computed on basis of weather records, engineers' observations, notes on flow kept by a resident of Continental, two floodmark readings, and records for Santa Cruz River at Tucson and near Nogales; July 25 on basis of floodmark and one discharge measurement, July 26 to Aug. 1 on basis of weather records and observations of engineer working at station; Sept. 3 on basis of partial gage-height record.

Santa Cruz River at Tucson, Ariz.

Location.- Water-stage recorder, lat. 32°13', long. 110°59', in NE $\frac{1}{4}$ sec. 14, T. 14 S., R. 13 E., at Congress Street Bridge in Tucson. Datum of gage is 2,327.16 feet above mean sea level (general adjustment of 1929).

Drainage area.- 2,190 square miles (revised), of which 403 square miles are in Mexico.

Records available.- October 1905 to September 1940.

Average discharge.- 28 years (1912-40), 23.1 second-feet.

Extremes.- Maximum discharge during year, 11,300 second-feet Aug. 14 (gage height, 13.05 feet); no flow during greater part of year.

1905-40: Maximum discharge, about 15,000 second-feet Dec. 23, 1914, from rating curve extended above 9,000 second-feet; no flow during greater part of each year.

Remarks.- Records good above 40 second-feet, fair between 15 and 40 second-feet, and poor below 15 second-feet. Several diversions above station for irrigation. During the year 37 discharge measurements were made.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0			0				0	0	0	3
2	0	0			154				0	0	44	0
3	0	0			1				0	0	8	32
4	0	0			0				0	0	76	0
5	0	0			0				0	0	66	0
6	0	0			1				0	0	12	0
7	0	0			1				0	0	al	0
8	0	0			1				0	0	0	0
9	15	0			1				0	0	0	0
10	0	0			0				0	0	0	0
11	0	0			0				0	0	29	0
12	0	0			0				0	0	5	49
13	0	0			1				0	0	377	241
14	0	0			1				0	0	4,270	0
15	0	0			1				0	8	24	0
16	0	0			1				0	al	0	0
17	0	0			0				0	506	0	0
18	0	0			0				0	140	153	0
19	0	0			0				0	1	17	0
20	0	0			0				0	0	6	0
21	0	0			0				15	0	al	0
22	0	0			0				89	0	0	0
23	0	0			0				73	0	2	0
24	0	0			0				61	119	al	0
25	0	0			0				0	142	0	0
26	0	0			0				29	14	0	0
27	0	0			0				0	0	0	0
28	0	0			0				0	0	0	0
29	0	20			0				0	0	0	0
30	0	0			0				0	0	0	5
31	0	-			-				-	0	0	-
Month					Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet			
October.....					15	15	0	0.5	30			
November.....					20	20	0	.7	40			
December.....					0	0	0	0	0			
Calendar year 1939.....					12,225	2,420	0	33.5	24,250			
January.....					0	0	0	0	0			
February.....					144	134	0	5.0	286			
March.....					0	0	0	0	0			
April.....					0	0	0	0	0			
May.....					0	0	0	0	0			
June.....					267	89	0	8.9	530			
July.....					931	506	0	30.0	1,850			
August.....					5,092	4,270	0	164	10,100			
September.....					330	241	0	11.0	665			
Water year 1939-40.....					6,799	4,270	0	18.6	13,490			

Peak discharge.- July 17 (2:30 p.m.) 1,590 sec.-ft.; (5 p.m.) 1,200 sec.-ft., (10 p.m.) 1,890 sec.-ft.; Aug. 2 (7:30 a.m.) 628 sec.-ft.; Aug. 14 (4:30 a.m.) 11,300 sec.-ft.; Sept. 15 (1:30 a.m.) 880 sec.-ft.

a No gage-height record; discharge computed on basis of engineers' field estimates of flow.

GILA RIVER BASIN

Santa Cruz River at Rillito, Ariz.

Location.- Water-stage recorder, lat. $31^{\circ}24'$, long. $111^{\circ}09'$, in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 8, T. 12 S., R. 12 E., 1 mile southeast of Rillito, $7\frac{1}{2}$ miles downstream from Canada del Oro, and $8\frac{1}{2}$ miles downstream from Rillito Creek. Datum of gage is 2,053.43 feet above mean sea level (general adjustment of 1929). Supplementary staff gage 900 feet upstream at different datum.

Drainage area.- 3,530 square miles.

Records available.- October 1939 to September 1940.

Extremes.- Maximum discharge during year, 17,000 second-feet Aug. 14 (gage height, 9.9 feet); no flow during greater part of year.

Remarks.- Records good except those for period Sept. 12-30, when supplementary staff gage was used, which are fair, and those for period of no gage-height record, which are poor. Several diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	1	0	2				0	0	0	0
2		0	0	0	164				0	0	20	0
3		0	0	0	1				0	0	2	a15
4		0	0	0	0				0	0	40	a2
5		0	0	0	0				0	0	25	0
6		0	0	16	0				0	0	5	0
7		0	0	5	0				0	0	5	0
8		0	0	0	0				0	0	2	0
9		0	0	0	0				0	0	42	0
10		0	0	0	0				0	0	1	0
11		0	0	0	0				0	0	18	0
12		0	0	0	0				0	0	13	25
13		0	0	0	0				0	0	419	420
14		0	0	0	0				0	0	7,490	0
15		0	0	0	0				0	0	a40	0
16		0	0	0	0				0	0	a2	0
17		0	0	0	0				0	204	0	0
18		0	0	0	0				0	542	a15	0
19		0	0	0	0				0	0	a35	0
20		0	0	0	0				0	0	0	0
21		0	0	0	0				4	0	0	60
22		0	0	0	0				52	0	0	25
23		0	0	0	150				192	2	a20	0
24		0	0	0	27				30	35	a1	0
25		0	0	0	0				2	148	0	0
26		0	0	0	0				12	12	0	0
27		0	0	0	0				14	8	0	0
28		0	0	0	0				0	0	0	0
29		0	0	0	0				0	0	0	0
30		6	0	0	0				0	0	0	0
31		-	0	0	-				-	0	0	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						0	0	0	0	0		
November.....						23	17	0	.8	46		
December.....						1	1	0	.03	2		
Calendar year						-	-	-	-	-		
January.....						21	16	0	.7	42		
February.....						344	164	0	11.9	682		
March.....						0	0	0	0	0		
April.....						0	0	0	0	0		
May.....						0	0	0	0	0		
June.....						306	192	0	10.2	607		
July.....						751	342	0	24.2	1,490		
August.....						8,198	7,490	0	264	16,260		
September.....						567	420	0	18.9	1,120		
Water year 1939-40.....						10,211	7,490	0	27.9	20,250		

Peak discharge.- June 23 (7:30 a.m.) 1,200 sec.-ft.; July 17 (6 p.m.) 1,430 sec.-ft.; July 18 (1:30 a.m.) 1,680 sec.-ft.; Aug. 14 (4 a.m.) 17,000 sec.-ft.

a No gage-height record; discharge computed from graph based on three discharge measurements, engineers' observations, and records for Santa Cruz River at Tucson and Rillito Creek near Tucson.

Santa Cruz River near Laveen, Ariz.

Location.- Water-stage recorder, lat. 33°13', long. 112°10', in NE¼NE¼ sec. 29, T. 2 S., R. 2 E., on Gila River Indian Reservation, at highway bridge, 3 miles south of Komatke, 9 miles upstream from mouth, and 9½ miles south of Laveen. Datum of gage is 1,021.1 feet above mean sea level (general adjustment of 1912, levels by Office of Indian Affairs.)

Drainage area.- 8,970 square miles.

Records available.- January to September 1940.

Extremes.- Maximum discharge during period, 1,200 second-feet Sept. 18 (gage height, 9.30 feet); no flow on several days during July, August, and September. Flood in September 1939 reached a stage of 9.5 feet, from floodmarks (discharge, 1,260 second-feet).

Remarks.- Records good except those for period of no gage-height record, which are poor. Several diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					a5	3	3	2	0.9	0.4	0	0.4
2					a3	3	3	1	1	.4	0	.4
3					a3	3	3	1	1	.4	.1	.3
4					a3	3	3	1	1	.4	.3	.3
5					a3	3	3	1	1	.4	59	.3
6					a3	3	3	1	.9	.4	26	.5
7					a3	3	3	1	.9	.3	1	.4
8					a3	3	3	1	.9	.3	0	.3
9					a3	3	3	1	.9	.3	0	.3
10					a3	3	3	1	.9	.2	0	.3
11						3	3	3	.9	.2	0	.5
12						3	3	2	.9	.2	0	.5
13						3	3	2	.9	.1	0	74
14						3	3	2	.9	.1	0	21
15						3	3	2	.8	.1	0	3
16				a3	3	3	2	.8	.7	.1	33	.4
17					3	3	2	.7	.7	0	535	35
18					3	3	2	.7	.7	0	303	945
19					3	3	2	.7	.7	0	57	246
20					3	3	2	.7	.7	0	33	98
21					3	3	2	.7	.7	0	5	84
22					3	3	2	.7	.7	0	2	6
23					3	3	2	.7	.7	0	.9	1
24					2	3	2	.8	.7	0	.7	.7
25					2	3	2	.8	.5	1	.5	.4
26					2	3	2	.9	.5	32	.5	.3
27					3	3	2	.9	.5	96	.4	.2
28					3	3	2	.9	.5	26	.4	0
29					2	3	2	.9	.5	1	.4	0
30					-	3	2	.9	.4	0	.4	0
31					-	3	-	.9	-	0	.4	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....					
November.....					
December.....					
Calendar year					
January 1940.....	93	-	-	3	184
February.....	83	5	2	2.9	165
March.....	93	3	3	3.0	184
April.....	71	3	2	2.4	141
May.....	28.0	2	.7	.90	56
June.....	23.0	1	.4	.77	46
July.....	160.3	96	0	5.17	318
August.....	1,059.0	535	0	34.2	2,100
September.....	1,519.5	945	0	50.6	3,010
The period.....	-	-	-	-	6,200

Peak discharge.- July 27 (1 a.m.) 227 sec.-ft.; Aug. 17 (7 p.m.) 743 sec.-ft.; Sept. 18 (10 a.m.) 1,200 sec.-ft.

a No gage-height record; discharge computed on basis of several field estimates by engineers and weather records.

Sonoita Creek near Patagonia, Ariz.

Location.— Water-stage recorder, lat. $31^{\circ}30'$, long. $110^{\circ}49'$, in sec. 21, T. 22 S., R. 15 E., unsurveyed, in Spanish land grant of San Jose de Sonoita, 5 miles downstream from Patagonia. Prior to Mar. 6, 1940, water-stage recorder 2,700 feet downstream at datum 18.00 feet lower.

Drainage area.— 210 square miles.

Records available.— June 1930 to December 1933, July 1935 to September 1940.

Extremes.— Maximum discharge during year, 2,580 second-feet Aug. 13 (gage height, 8.42 feet); no flow on many days.

1930-40: Maximum discharge, about 20,000 second-feet sometime in August, 1934 (gage height, 18.0 feet, present site and datum, from floodmarks), by slope-area measurement; probably no flow at present site for several days during summer of each year.

Remarks.— Records good except those for periods of no gage-height record, which are fair. Several small diversions above station for irrigation and mining. Extreme low-water records at present site not comparable with those at former site; for comparison see table of miscellaneous measurements at end of report.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.9	2	3	3	5	4	a1	0.4	a0.1	0	1	0.8
2	.7	2	3	3	28	a1	a1	.4	a.1	0	9	.6
3	.6	2	3	3	7	4	1	.4	a.1	0	3	2
4	.6	2	3	3	5	3	1	.4	a.1	.1	2	.4
5	.6	2	3	5	4	4	1	.4	.1	3	2	.4
6	.5	2	3	5	3	4	1	.4	.1	0	1	.3
7	6	2	3	4	3	a4	1	.4	.1	0	.8	.4
8	6	3	3	4	3	a4	1	.6	.1	0	18	.4
9	3	4	3	4	2	a4	1	.4	.1	0	3	.4
10	2	4	3	4	2	a4	.8	.3	.1	.1	3	.4
11	1	3	3	4	2	a4	.6	.3	.1	.1	4	1
12	1	2	3	3	2	a4	.6	.4	0	.1	2	3
13	1	2	2	3	2	a3	.6	.4	0	0	201	2
14	1	2	2	3	2	a3	.6	.6	0	.1	106	1
15	1	2	2	3	2	a3	.6	.6	0	.2	2	1
16	1	2	2	3	3	a3	.8	.6	0	.2	84	1
17	1	3	2	3	3	a3	.4	.4	0	172	3	1
18	1	3	3	4	3	a3	1	.5	0	a5	14	1
19	1	2	3	3	3	a3	.8	.5	0	a2	2	1
20	1	2	3	3	3	a3	.6	.3	2	a1	2	1
21	1	2	3	3	3	a3	.6	.4	2	a1	1	6
22	2	3	3	4	17	a2	.6	1	3	a1	1	3
23	2	3	3	4	44	a2	1	.5	2	a1	2	1
24	2	4	4	4	8	a2	1	.4	.6	109	2	1
25	2	4	6	3	4	a2	1	.3	.3	32	1	.5
26	2	3	4	3	3	a2	1	.2	.1	5	1	.6
27	2	3	4	3	3	a2	1	.2	.2	2	.8	2
28	2	4	4	3	3	a2	.8	.2	.1	1	.8	2
29	2	5	4	2	4	a2	.6	.2	.1	27	.6	81
30	2	4	3	3	-	a2	.4	.1	0	7	.6	3
31	2	-	3	3	-	a2	-	a.1	-	2	.8	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						49.9	5	0.5	1.61	99		
November.....						83	5	2	2.3	165		
December.....						96	6	2	3.1	190		
Calendar year 1939.....						2,470.8	200	.2	6.77	4,900		
January.....						105	5	2	3.4	208		
February.....						175	44	2	6.0	347		
March.....						94	4	2	3.0	186		
April.....						25.0	1	.4	.83	50		
May.....						12.1	1	.1	.39	24		
June.....						11.5	3	0	.38	23		
July.....						368.9	172	0	11.9	732		
August.....						474.4	201	.6	15.3	941		
September.....						119.2	81	.3	3.97	256		
Water year 1939-40.....						1,614.0	201	0.	4.41	3,200		

Peak discharge.— July 17 (4 p.m.) 1,480 sec.-ft.; Aug. 13 (10:30 p.m.) 2,580 sec.-ft.

a No gage-height record; discharge computed on basis of records for preceding and following days.

Rillito Creek near Wrightstown, Ariz.

Location.- Water-stage recorder, lat. $32^{\circ}16'$, long. $110^{\circ}51'$, in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 31, T. 13 S., R. 15 E., at highway bridge 1 mile downstream from Sabino Creek, 2 miles upstream from Pantano Wash, and $3\frac{1}{2}$ miles northwest of Wrightstown.

Drainage area.- 221 square miles.

Records available.- June to September 1940.

Extremes.- Maximum discharge during period, 5,400 second-feet Aug. 13 (gage height, 7.8 feet), by slope-area method; no flow during greater part of period.

Remarks.- Records poor. Several small diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1											0	0
2											0	0
3											0	0
4											0	0
5											0	0
6												
7											0	0
8											0	0
9											al	0
10											0	0
11											1	0
12											0	0
13											0	31
14											273	3
15											7	0
16											0	0
17											0	0
18											0	0
19											0	0
20											0	0
21											0	0
22											0	0
23											0	0
24											0	0
25											0	0
26												
27											0	0
28											0	0
29											0	0
30											0	0
31											0	-
Month						Second-foot-days	Maximum	Minimum		Mean	Run-off in acre-feet	
October.....												
November.....												
December.....												
Calendar year												
January.....						-	-	-	-	-	-	
February.....						-	-	-	-	-	-	
March.....						-	-	-	-	-	-	
April.....						-	-	-	-	-	-	
May.....						-	-	-	-	-	-	
June.....						0	0	0	0	0	0	
July.....						0	0	0	0	0	0	
August.....						282	273	0	9.1	569		
September.....						34	31	0	1.1	67		
The period.....						-	-	-	-	626		

Peak discharge.- Aug. 10 (11:30 p.m.) 35 sec.-ft.; Aug. 13 (8:45 p.m.) 5,400 sec.-ft.; Sept. 12 (9 p.m.) 367 sec.-ft.

a No gage-height record; discharge computed on basis of engineer's field estimate Aug. 9.

Rillito Creek near Tucson, Ariz.

Location.- Water-stage recorder, lat. $32^{\circ}18'$, long. $110^{\circ}59'$, in sec. 23, T. 13 S., R. 13 E., at Oracle Road Bridge, 4 miles upstream from mouth and 4 miles north of Tucson.
Datum of gage is 2,290.78 feet above mean sea level (general adjustment of 1929).

Drainage area.- 903 square miles.

Records available.- January 1911 to September 1940.

Average discharge.- 27 years (1913-40), 25.4 second-feet.

Extremes.- Maximum discharge during year, 13,200 second-feet Aug. 13 (gage height, 10.30 feet); no flow during greater part of year.

1911-40: Maximum discharge, 24,000 second-feet Sept. 23, 1929, from rating curve extended above 12,000 second-feet by velocity-area study; no flow during greater part of each year.

Remarks.- Records fair except those below 25 second-feet, which are poor. Several small diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0		0	0				0	0	0	0
2	0	0		0	16				0	0	0	0
3	0	0		0	0				0	0	0	10
4	0	0		0	0				0	0	0	0
5	0	0		1	0				0	0	0	0
6	0	0		0	0				0	0	0	0
7	2	0		0	0				0	0	0	0
8	0	0		0	0				0	0	9	0
9	0	0		0	0				0	0	12	0
10	0	0		0	0				0	0	0	0
11	0	0		0	0				0	0	1	0
12	0	0		0	0				0	0	0	143
13	0	0		0	0				0	0	1,240	107
14	0	0		0	0				0	0	2,270	0
15	0	0		0	0				0	0	0	0
16	0	0		0	0				0	0	0	0
17	0	0		0	0				0	0	0	0
18	0	0		0	0				0	0	3	0
19	0	0		0	0				0	0	7	0
20	0	0		0	0				0	0	0	0
21	0	0		0	0				0	0	0	0
22	0	0		0	0				0	0	0	0
23	0	0		0	114				224	0	36	0
24	0	0		0	2				1	0	0	0
25	0	0		0	0				0	0	0	0
26	0	0		0	0				0	0	0	0
27	0	0		0	0				0	12	0	0
28	0	0		0	0				0	0	0	0
29	0	1		0	0				0	0	0	0
30	0	0		0	0				0	0	0	0
31	0	-		0	-				-	0	0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	2	2	0	0.1	4
November.....	1	1	0	0	2
December.....	0	0	0	0	0
Calendar year 1939.....	3,469	1,890	0	9.5	6,880
January.....	1	1	0	0	2
February.....	132	114	0	4.6	262
March.....	0	0	0	0	0
April.....	0	0	0	0	0
May.....	0	0	0	0	0
June.....	225	224	0	7.5	446
July.....	12	12	0	.4	24
August.....	3,578	2,270	0	115	7,100
September.....	260	143	0	8.7	516
Water year 1939-40.....	4,211	2,270	0	115	8,360

Peak discharge.- June 23 (4:30 a.m.) 2,810 sec.-ft.; Aug. 13 (11:40 p.m.) 13,200 sec.-ft.

Sabino Creek near Tucson, Ariz.

Location.- Water-stage recorder and concrete control, lat. $32^{\circ}19'$, long. $110^{\circ}49'$, in E $\frac{1}{2}$ sec. 9, T. 13 S., R. 15 E., half a mile north of Coronado National Forest boundary and 12 miles northeast of Tucson.

Drainage area.- 35.0 square miles.

Records available.- June 1932 to September 1940.

Extremes.- Maximum discharge during year, 904 second-feet Feb. 23 (gage height, 4.98 feet); no flow June 7-19.

1932-40: Maximum discharge, 4,100 second-feet Mar. 3, 1938 (gage height, 7.13 feet), from rating curve for spillway of dam 1,000 feet downstream, extended above 2,500 second-feet by logarithmic plotting; no flow at times during several years.

Remarks.- Records excellent. No diversions above station. Slight regulation by several small dams constructed to provide recreational lakes.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.03	0.09	0.4	0.3	21	10	1.2	0.2	0.01	0.8	1.1	0.06
2	.02	.05	.4	.3	95	7.9	2.0	.1	.01	.4	.6	.06
3	.02	.05	.4	.4	19	6.4	2.4	.09	.01	.3	.6	13
4	.02	.05	.6	1.0	9.7	5.6	2.4	.05	.01	1.1	5.9	5.9
5	.02	.05	.6	1.8	6.4	4.9	2.1	.04	.01	.03	.5	2.0
6	.02	.04	.6	2.7	4.5	4.0	1.8	.03	.01	.02	.3	1.0
7	.04	.05	.6	3.2	3.8	4.0	1.5	.03	0	.02	.6	.6
8	21	.04	.5	2.9	3.1	3.6	1.2	.03	0	.02	.9	.3
9	4.7	1.8	.5	2.3	2.9	3.3	1.1	.03	0	.02	5.9	.2
10	2.3	12	.5	2.2	2.4	3.3	.9	.05	0	.02	3.3	.1
11	1.7	3.7	.4	2.0	2.3	4.9	.8	.02	0	.02	1.2	.06
12	1.3	1.7	.4	1.8	2.1	5.5	.2	.02	0	.02	.6	.06
13	1.0	1.0	.3	1.7	1.8	4.9	.2	.02	0	.01	.7	.06
14	.8	.8	.3	1.6	1.7	4.0	.4	.02	0	.01	2.4	.04
15	.6	.7	.3	1.6	1.6	3.8	.4	.02	0	.01	.7	.03
16	.6	.6	.3	1.4	1.5	3.4	.4	.02	0	.01	.4	.03
17	.5	.5	.3	1.2	1.4	2.9	.4	.02	0	.02	.2	.03
18	.4	.4	.2	1.1	1.2	2.7	.4	.02	0	.02	.06	.04
19	.4	.4	.2	1.0	1.0	2.6	.3	.02	0	.01	.06	.03
20	.3	.3	.2	.8	1.1	2.3	.3	.02	2.3	.01	.04	.03
21	.3	.2	.2	.7	1.0	2.3	.3	.02	48	.01	.04	.05
22	.2	.2	.2	.6	1.5	2.1	.3	.02	49	.01	.03	.3
23	.2	.2	.2	.6	436	2.1	.3	.02	16	.01	.03	1.8
24	.2	.2	.2	.6	95	2.1	1.1	.02	24	.01	9.9	.9
25	.2	.2	.4	.5	39	2.0	.9	.02	7.9	.01	3.6	.5
26	.2	.2	.4	.4	28	1.8	.5	.01	3.6	.01	1.2	.3
27	.2	.1	.4	.4	23	1.7	.4	.01	2.0	.01	.6	.2
28	.1	.2	.4	.4	17	1.7	.3	.01	1.0	.01	.3	.2
29	.1	.3	.4	.4	12	1.5	.2	.01	.6	.01	.1	.1
30	.1	.4	.4	.3	-	1.4	.2	.01	.6	5.8	.08	.1
31	.09	-	.4	.3	-	1.2	-	.01	-	2.8	.06	-
Month	Second-foot-days					Maximum	Minimum	Mean	Run-off in acre-feet			
October.....	37.66					21	0.06	1.21	75			
November.....	26.52					12	.04	.884	53			
December.....	11.6					.6	.2	.37	23			
Calendar year 1939.....	1,069.88					108	0	2.93	2,120			
January.....	36.5					3.2	.3	1.18	72			
February.....	834.0					436	1.0	28.8	1,650			
March.....	109.8					10	1.2	3.54	218			
April.....	24.9					2.4	.2	.83	49			
May.....	155.06					49	.01	5.17	308			
June.....	10.56					5.8	.01	.341	21			
July.....	37.22					9.9	.07	1.20	74			
August.....	28.06					13	.07	.935	56			
September.....	28.06					13	.07	.935	56			
Water year 1939-40.....	1,312.87					436	0	3.59	2,600			

Peak discharge.- Feb. 23 (5:15 a.m.) 890 sec.-ft.; Feb. 23 (9:40 a.m.) 904 sec.-ft.

Pantano Wash near Tucson, Ariz.

Location.- Water-stage recorder supplemented by staff gage, lat. 32°15', long. 110°51', NE 1/4 sec. 6, T. 14 S., R. 15 E., at highway bridge, 1 1/4 miles upstream from mouth and 7 miles east of Tucson.

Drainage area.- 602 square miles.

Records available.- June to September 1940.

Extremes.- Maximum discharge during period, 9,200 second-feet Aug. 13 (gage height, 4.50 feet); no flow during greater part of period.

Remarks.- Records fair except those below 100 second-feet, which are poor. Several small diversions above station.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									0	0	0	0
2									0	0	0	0
3									0	0	0	17
4									0	0	0	0
5									0	0	0	0
6									0	0	0	1
7									0	0	0	0
8									0	0	10	0
9									0	0	25	0
10									0	0	8	0
11									0	0	6	0
12									0	0	0	285
13									0	0	672	60
14									0	0	1,550	0
15									0	0	0	0
16									0	0	0	0
17									0	0	0	2
18									0	0	16	0
19									0	0	1	0
20									0	0	0	0
21									0	10	0	0
22									0	0	10	0
23									c340	3	45	0
24									0	3	0	0
25									0	0	0	0
26									0	20	0	0
27									0	0	0	0
28									0	0	0	0
29									0	0	0	0
30									0	0	0	0
31									-	0	0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....					
November.....					
December.....					
Calendar year					
January.....	-	-	-	-	-
February.....	-	-	-	-	-
March.....	-	-	-	-	-
April.....	-	-	-	-	-
May.....	-	-	-	-	-
June.....	340	340	0	11.3	674
July.....	36	20	0	1.2	71
August.....	2,341	1,550	0	75.5	4,640
September.....	372	285	0	12.4	738
The period.....	-	-	-	-	6,120

Peak discharge.- June 23 (12:01 a.m.) 3,230 sec.-ft.; Aug. 13 (12 p.m.) 9,200 sec.-ft.; Sept. 12 (7:30 p.m.) 3,320 sec.-ft.

c Computed on basis of one discharge measurement, floodmark, several gage-height readings, and records for Rillito Creek near Tucson.

Note.- Channel away from recording gage Aug. 14-21, Aug. 23 to Sept. 11, and Sept. 13-30; discharge computed from staff-gage readings and 11 discharge measurements.

Salt River near Chrysotile, Ariz.

Location.— Water-stage recorder, lat. 33°48', long. 110°30', in sec. 5, T. 5 N., R. 18 E., unsurveyed, on San Carlos Indian Reservation, 1,200 feet upstream from bridge on U. S. Highway 60, 5½ miles northeast of Chrysotile, and 8 miles upstream from Cibecue Creek. Datum of gage is 3,353.8 feet above mean sea level (general adjustment of 1929).

Drainage area.— 2,830 square miles.

Records available.— September 1924 to September 1940.

Average discharge.— 16 years, 604 second-feet.

Extremes.— Maximum discharge during year, 6,300 second-feet Aug. 15 (gage height, 6.40 feet); minimum, 96 second-feet Oct. 5, July 12, 13; minimum gage-height, 1.44 feet July 12, 13.

1924-40: Maximum discharge, 52,900 second-feet (revised) Feb. 7, 1937 (gage height, 15.18 feet); minimum, 89 second-feet July 14, 1939 (gage height, 1.39 feet).

Revisions.— The figures of maximum discharge for some water years have been revised, as shown in the following table. They supersede those published in the water-supply papers indicated.

Water-Supply Paper	Water year	Date	Gage height (feet)	Discharge (second-feet)
649, 859....	1926-27	Feb. 17	9.9	19,900
734, 859....	1931-32	10	13.3	40,000
829, 859....	1936-37	7	15.18	52,900
859.....	1937-38	Mar. 4	9.68	19,000

Remarks.— Records excellent except those for period of faulty gage-height record, which are good. Several small diversions above station.

Revisions.— Revised figures of discharge for high-water periods in the water years 1927, 1932, and 1937 are given herein. They supersede those published in Water-Supply Papers 649, 734, 829, and 859.

Day (water year)	Discharge (second-feet)	Day (water year)	Discharge (second-feet)	Day (water year)	Discharge (second-feet)
1926-27		1931-32		1936-37	
Feb. 17.....	16,700	Feb. 9.....	11,600	Feb. 7.....	25,000
		10.....	30,800	8.....	16,700
		11.....	11,800		

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	115	143	175	156	203	641	al,200	495	260	182	137	324
2	110	143	167	164	1,720	641	al,200	482	251	179	124	323
3	105	143	164	168	1,820	598	al,050	468	246	164	221	1,020
4	102	140	164	164	822	583	al,020	468	233	153	327	455
5	96	140	156	175	598	555	943	515	224	140	220	270
6	99	140	156	194	528	508	925	508	207	130	194	320
7	99	143	153	233	451	508	959	495	207	121	269	220
8	154	146	153	220	391	508	599	470	194	110	255	179
9	346	167	153	199	357	828	916	457	182	104	203	175
10	284	256	153	186	309	619	987	432	179	102	194	186
11	260	246	153	186	279	749	1,020	420	175	102	164	175
12	211	233	153	190	269	1,070	969	420	164	96	168	244
13	186	224	153	207	260	960	890	408	156	99	156	190
14	171	199	149	256	246	797	864	391	149	138	168	182
15	160	182	146	265	246	694	839	374	143	127	1,300	171
16	149	175	143	215	246	664	805	368	134	128	296	168
17	146	167	140	194	233	687	789	362	130	122	203	164
18	143	164	143	190	224	694	765	379	130	141	179	168
19	140	160	143	186	207	725	765	397	127	134	407	256
20	137	160	140	179	203	741	741	432	127	124	284	256
21	137	153	137	175	199	789	702	403	178	113	175	283
22	134	149	143	171	203	873	709	391	124	107	242	447
23	137	149	153	179	228	960	717	391	127	107	194	412
24	134	149	153	168	345	1,030	717	379	as35	118	320	309
25	137	153	190	168	444	1,080	702	368	as36	676	228	294
26	146	160	194	168	414	al,150	656	368	304	679	287	269
27	166	160	171	160	451	al,250	627	352	260	267	253	251
28	164	164	156	160	521	al,350	634	324	203	215	256	269
29	160	320	140	160	569	1,300	591	304	203	203	216	1,290
30	156	199	130	164	-	1,160	535	289	194	179	190	al,130
31	153	-	140	168	-	1,120	-	274	-	146	175	-

Peak discharge.— Feb. 2 (2:30 p.m.) 3,490 sec.-ft.; Aug. 15 (4 a.m.) 6,300 sec.-ft.; Sept. 29 (8:30 a.m.) 3,730 sec.-ft.

a Gage-height record faulty; discharge computed on basis of partial record, weather records, and records for station near Roosevelt.

Monthly discharge, in second-feet, of Salt River near Chrysotile, Ariz., 1926-27, 1931-32, 1936-37, 1939-40

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October 1926	5,648	260	157	182	11,200
November	5,402	198	168	180	10,700
December	7,596	627	160	239	14,700
Calendar year 1926	294,205	9,520	153	806	585,000
January 1927	8,329	345	175	269	16,500
February	61,400	16,700	219	2,190	122,000
March	53,580	5,260	1,170	1,750	106,000
April	62,500	2,900	1,180	2,080	124,000
May	38,561	2,360	566	1,240	76,200
June	12,369	742	272	413	24,600
July	9,664	504	178	312	19,200
August	10,459	535	264	337	20,700
September	13,665	1,820	249	456	27,100
Water year 1926-27	288,983	16,700	157	792	575,000
October 1931	29,462	3,500	321	950	58,400
November	14,345	1,240	261	478	28,400
December	20,302	1,080	385	655	40,500
Calendar year 1931	269,765	5,700	153	739	535,000
January 1932	14,657	641	350	473	29,100
February	111,646	30,800	397	3,850	221,000
March	91,500	4,470	1,960	2,950	181,000
April	88,610	4,550	1,620	2,950	176,000
May	33,004	1,480	670	1,060	66,500
June	11,718	654	256	391	25,200
July	11,909	1,390	217	384	23,600
August	19,044	1,320	279	614	37,800
September	8,915	724	153	297	17,700
Water year 1931-32	455,110	30,800	153	1,240	902,000
October 1936	5,873	278	161	189	11,650
November	6,711	278	185	224	13,510
December	7,427	428	193	240	14,750
Calendar year 1936	284,272	8,890	145	777	563,800
January 1937	7,489	350	161	242	14,850
February	78,366	25,000	278	2,799	155,400
March	73,460	7,740	1,090	2,370	145,700
April	93,360	5,200	1,500	3,112	185,200
May	35,956	1,550	641	1,160	71,320
June	10,331	656	219	346	20,610
July	7,822	495	153	282	15,610
August	7,258	457	140	234	14,400
September	6,215	327	153	207	12,330
Water year 1936-37	340,328	25,000	140	932	675,000
October 1939	4,807	346	96	155	9,530
November	5,227	320	140	174	10,370
December	4,764	194	130	154	9,450
Calendar year 1939	149,801	5,870	91	410	297,100
January 1940	5,768	265	156	186	11,440
February	12,986	1,320	199	448	25,760
March	25,532	1,350	508	824	50,640
April	25,076	1,200	535	836	49,740
May	12,624	515	274	407	25,040
June	6,442	835	124	215	12,780
July	5,406	679	96	174	10,720
August	7,985	1,300	124	258	15,840
September	10,400	1,290	164	347	20,630
Water year 1939-40	127,017	1,820	96	347	251,900

Salt River near Roosevelt, Ariz.

Location.— Water-stage recorder, lat. 33°37', long. 110°55', in NE¼ sec. 9, T. 3 N., R. 14 E., unsurveyed, 100 feet downstream from bridge on Globe-Young highway, a quarter of a mile downstream from Pinal Creek, 1 mile upstream from diversion dam for power canal, 17 miles upstream from Roosevelt Dam, and 14 miles east of village of Roosevelt. Datum of gage is 2,177.14 feet above mean sea level (general adjustment of 1929).

Drainage area.— 4,310 square miles.

Records available.— October 1913 to September 1940.

Average discharge.— 27 years, 953 second-feet.

Extremes.— Maximum discharge during year, 4,610 second-feet July 16 (gage height, 10.80 feet); minimum, 104 second-feet July 13 (gage height, 5.50 feet).

1913-40: Maximum discharge, about 100,000 second-feet Jan. 19, 1916, by computation of flow over Roosevelt Dam; minimum, 91 second-feet June 30, 1934. Minimum discharge known, about 42 second-feet Aug. 5, 1911.

Remarks.— Records excellent. Several small diversions above station for irrigation.

During the year 241 discharge measurements were made. See page 27C for records for Tonto Creek, which also contributes to Roosevelt Reservoir.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	144	186	244	183	261	789	1,180	556	278	208	176	229
2	137	183	221	202	1,160	819	1,310	522	270	192	156	474
3	159	177	202	216	3,010	774	1,220	506	269	189	164	315
4	139	177	200	216	1,460	745	1,070	501	247	170	391	1,390
5	137	177	197	226	967	716	1,090	511	235	156	424	406
6	132	177	197	240	767	655	1,070	545	212	140	241	323
7	134	177	194	247	661	622	1,070	539	205	132	229	375
8	137	177	191	299	542	622	1,030	517	198	127	291	251
9	170	221	197	284	469	603	1,020	496	192	118	274	215
10	349	372	197	250	425	648	1,050	474	182	113	212	208
11	303	307	191	240	371	796	1,100	449	176	109	202	233
12	276	284	194	244	350	1,020	1,070	449	173	109	173	515
13	234	269	197	247	338	1,180	1,000	449	159	106	386	355
14	214	251	194	284	330	991	964	440	145	109	418	244
15	200	234	191	326	310	873	940	411	145	148	1,170	222
16	188	224	186	314	303	796	924	397	137	504	626	215
17	183	211	186	284	295	781	901	392	135	406	289	219
18	180	208	186	250	291	804	885	397	130	190	240	226
19	173	197	191	240	276	819	854	415	130	173	359	246
20	168	200	191	235	258	842	854	440	149	165	447	335
21	168	197	183	235	254	849	779	444	145	156	295	302
22	165	194	180	226	258	904	765	425	178	145	212	950
23	168	188	188	222	280	1,010	765	420	148	137	369	501
24	166	194	191	226	303	1,060	772	425	520	158	370	431
25	175	191	211	222	455	1,100	758	397	475	350	462	344
26	224	191	254	219	491	1,180	715	392	407	825	532	323
27	262	205	244	219	542	1,260	674	383	350	538	336	302
28	205	208	218	212	668	1,340	661	357	267	282	292	306
29	197	239	200	206	731	1,300	668	331	215	240	290	1,260
30	188	400	186	209	-	1,220	604	310	212	233	259	1,290
31	186	-	175	216	-	1,140	-	286	-	205	233	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						5,840	349	132	188	11,580		
November.....						5,616	400	177	221	13,120		
December.....						6,177	254	175	199	12,250		
Calendar year 1939.....						176,817	5,750	96	484	350,700		
January.....						7,441	326	183	240	14,760		
February.....						16,816	3,010	254	550	33,550		
March.....						28,268	1,340	603	912	56,050		
April.....						27,763	1,310	604	925	55,070		
May.....						13,576	556	286	438	26,930		
June.....						6,672	520	150	222	13,230		
July.....						6,833	525	106	220	13,550		
August.....						10,537	1,170	166	340	20,900		
September.....						13,005	1,390	208	434	26,800		
Water year 1939-40.....						149,554	5,010	106	409	296,600		

Peak discharge.— Feb. 2 (12:50 a.m.) 3,820 sec.-ft.; July 16 (6:30 a.m.) 4,610 sec.-ft.

Reservoir system on Salt River at and below Roosevelt Dam, Ariz.

Location.- This system comprises four storage reservoirs created by four separate dams on Salt River: Roosevelt Lake, formed by Roosevelt Dam, in sec. 20, T. 4 N., R. 12 E., unsurveyed; Apache Lake, formed by Horse Mesa Dam, 17 miles downstream from Roosevelt Dam; Canyon Lake, formed by Mormon Flat Dam, 26 miles downstream from Roosevelt Dam; Sahuar Lake, formed by Stewart Mountain Dam, 36 miles downstream from Roosevelt Dam.

Drainage area.- 6,220 square miles (revised) at Stewart Mountain Dam.

Records available.- October 1934 to September 1940.

Extremes.- Maximum daily contents of system during year, 168,900 acre-feet Apr. 12, 13; minimum daily contents, 20,680 acre-feet Sept. 16.
1934-40: Maximum daily contents, 1,312,200 acre-feet May 3, 1937; minimum daily contents, that of Sept. 16, 1940.

Remarks.- Total storage capacity of the four reservoirs is 1,771,000 acre-feet, divided as follows: Roosevelt Lake, 1,398,000 acre-feet; Apache Lake, 245,000 acre-feet; Canyon Lake, 58,000 acre-feet (revised); Sahuar Lake, 70,000 acre-feet. Water from this system is used for irrigation of Salt River Valley near Phoenix and for the generation of power. The four dams forming these reservoirs completely develop the fall in Salt River from Roosevelt Lake to Stewart Mountain Dam.

Cooperation.- Records of daily contents furnished by Salt River Valley Water Users' Association.

Contents, in acre-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	164,700	136,400	124,000	116,300	129,100	157,400	164,600	165,800	139,500	89,110	39,380	31,080
2	164,900	136,100	124,800	116,900	131,400	158,300	165,200	165,100	137,200	87,530	38,110	30,930
3	164,700	134,100	125,600	117,300	135,000	160,000	165,900	164,700	135,500	85,710	37,440	30,620
4	163,800	133,300	126,200	117,900	137,900	161,300	166,000	164,000	134,000	83,800	36,650	30,950
5	162,700	132,300	126,800	118,500	139,800	162,100	166,500	163,300	132,600	81,860	36,600	30,740
6	161,400	131,500	127,400	119,000	141,100	163,100	166,900	162,600	131,000	80,010	35,960	29,690
7	160,500	130,700	128,000	119,600	142,800	164,400	167,300	162,100	129,500	78,150	35,690	28,370
8	159,600	129,800	128,600	120,100	144,500	165,600	167,600	161,500	129,500	76,080	35,290	27,670
9	158,400	129,200	129,200	120,900	144,700	166,900	167,900	160,600	127,700	74,260	34,860	26,280
10	157,600	129,100	129,600	121,500	145,600	167,600	167,900	160,000	125,500	72,530	34,190	24,620
11	156,500	129,300	130,100	122,200	146,400	167,500	168,600	159,200	123,500	70,910	33,660	23,390
12	155,100	129,600	130,600	122,900	147,200	167,400	168,900	158,600	121,500	69,850	32,840	23,080
13	153,900	129,400	131,000	123,200	147,800	167,800	168,900	158,200	119,500	67,060	31,860	21,650
14	153,500	128,700	130,700	123,600	148,500	167,700	168,900	157,700	117,100	65,310	30,640	21,890
15	152,500	128,000	129,900	124,300	149,100	167,600	168,400	156,800	114,800	63,860	30,120	21,060
16	151,600	127,400	129,600	125,000	149,500	167,500	167,700	155,500	112,600	62,410	30,190	20,680
17	150,400	126,700	129,200	125,600	149,600	167,300	167,400	154,500	110,800	61,400	29,560	20,750
18	149,700	126,600	128,500	126,300	149,900	167,100	167,100	153,500	107,600	59,970	29,180	21,630
19	148,600	126,600	127,400	127,000	150,700	166,700	166,600	152,700	105,500	59,230	28,700	22,250
20	147,500	125,900	126,100	127,500	151,200	165,900	166,300	152,100	103,900	58,140	28,760	22,980
21	146,400	124,900	124,700	127,700	151,600	165,500	166,000	151,300	102,600	56,740	28,160	23,650
22	145,600	123,700	123,700	128,200	152,000	164,900	166,000	150,400	101,000	54,850	27,660	25,120
23	144,500	121,900	123,100	128,900	152,500	164,300	165,900	149,700	99,660	52,560	27,160	26,440
24	143,400	120,600	122,700	129,400	153,000	163,900	165,600	149,100	98,310	50,320	27,350	27,280
25	142,400	120,000	122,500	129,600	153,400	163,700	165,200	148,300	97,240	48,630	26,500	27,040
26	141,500	120,200	121,800	129,600	154,200	162,800	164,800	147,100	95,980	47,290	25,820	26,540
27	140,000	120,800	120,400	129,700	154,600	162,300	164,900	145,800	94,710	46,040	25,060	25,950
28	139,300	121,500	118,900	130,000	155,500	162,800	165,300	144,200	93,090	44,660	24,630	25,700
29	139,000	122,400	117,300	129,700	156,000	163,000	165,500	142,700	91,970	42,840	23,640	26,530
30	138,100	123,300	116,300	129,000	-	163,700	165,600	141,300	90,140	41,310	22,750	26,620
31	137,300	-	115,900	128,700	-	164,200	-	139,800	-	40,160	22,060	-

Monthly contents, in acre-feet, water year October 1939 to September 1940

Date	Contents	Change in contents during month
Sept. 30.....	164,300	-
Oct. 31.....	137,300	-27,000
Nov. 30.....	123,300	-14,000
Dec. 31.....	115,900	-7,400
Calendar year 1939.....	-	-135,400
Jan. 31.....	128,700	+12,800
Feb. 29.....	156,000	+27,300
Mar. 31.....	164,200	+8,200
Apr. 30.....	165,600	+1,400
May 31.....	139,800	-25,800
June 30.....	90,140	-49,660
July 31.....	40,160	-49,980
Aug. 31.....	32,050	-8,110
Sept. 30.....	26,620	-5,430
Water year 1939-40.....	-	-137,700

Salt River at Stewart Mountain Dam, Ariz.

Location.— Water-stage recorder, lat. 33°33', long. 111°32', in SE $\frac{1}{4}$ sec. 33, T. 3 N., R. 8 E., unsurveyed, in Tonto National Forest, three-quarters of a mile downstream from Stewart Mountain Dam and 9 miles upstream from Verde River. Datum of gage is 1,396.33 feet above mean sea level (general adjustment of 1929).

Drainage area.— 6,220 square miles (revised).

Records available.— October 1934 to September 1940.

Extremes (regulated).— Maximum discharge during year, 1,730 second-feet March 27; minimum, 7 second-feet Feb. 7-13, Aug. 27-29.

1934-40: Maximum discharge, 3,450 second-feet Sept. 16, 1937; minimum, 3 second-feet Jan. 8-20, 1935.

Remarks.— Records excellent except those for period of backwater from aquatic growth, July 17 to Sept. 19, which are good. During the year 50 discharge measurements were made. Discharge completely regulated at Stewart Mountain Dam and at three other dams, as described under heading "Reservoir system on Salt River at and below Roosevelt Dam, Ariz." (see page 268). Entire flow is diverted, for irrigation, at Granite Reef Dam, 13 miles downstream, by Salt River Valley Water Users' Association.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	734	14	13	372	8	965	869	1,090	1,140	944	883
2	12	759	14	12	14	8	965	979	1,030	1,120	993	740
3	80	810	14	11	12	9	951	986	1,030	1,120	963	672
4	727	890	12	10	11	9	951	1,040	1,110	1,120	810	612
5	759	678	11	10	11	9	903	993	1,130	1,120	727	721
6	784	678	10	10	10	10	765	1,040	1,200	1,110	727	924
7	734	654	10	10	9	10	636	1,000	1,140	1,100	666	917
8	672	778	10	10	7	10	734	1,030	1,020	1,090	648	784
9	709	654	10	10	7	11	817	1,030	903	1,100	642	850
10	696	499	10	9	7	133	919	1,010	958	1,090	678	986
11	863	69	10	9	7	896	896	1,040	1,220	1,090	630	1,030
12	1,050	40	10	9	7	715	890	965	1,330	1,090	678	910
13	986	494	10	9	7	791	930	910	1,340	1,110	836	791
14	752	555	371	9	8	883	993	937	1,330	1,100	972	772
15	709	601	595	9	8	890	1,030	1,010	1,260	1,050	937	666
16	680	630	549	9	8	890	1,230	1,090	1,250	1,080	778	572
17	696	630	245	9	8	890	1,090	1,070	1,290	966	784	398
18	636	604	526	9	8	896	1,120	917	1,290	903	740	141
19	715	45	734	9	8	1,060	1,170	678	1,380	843	672	12
20	765	494	856	9	8	1,080	1,070	607	979	843	666	25
21	721	642	843	9	8	1,200	958	784	1,000	930	672	99
22	690	759	823	9	8	1,370	917	830	1,010	1,110	678	68
23	740	772	586	9	8	1,360	924	810	1,020	1,340	672	10
24	791	709	385	8	8	1,210	1,060	804	1,010	1,300	517	55
25	784	560	354	114	8	1,280	1,070	836	1,010	1,280	10	531
26	836	19	629	219	8	1,580	1,100	930	1,010	1,280	8	618
27	778	14	830	149	8	1,590	863	958	1,100	1,280	7	618
28	624	14	890	116	8	1,060	696	1,090	1,120	1,280	7	595
29	642	14	1,010	380	8	1,050	642	1,080	1,150	1,280	7	521
30	666	14	1,140	516	-	966	703	1,140	1,150	1,280	26	821
31	746	-	59	516	-	965	-	1,140	-	1,120	679	-
Month					Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet			
October.....					21,085	1,050	12	680	41,820			
November.....					14,813	890	14	494	29,380			
December.....					11,570	1,140	10	373	22,950			
Calendar year 1939.....					273,892	2,180	6	750	543,200			
January.....					2,240	516	8	72.3	4,440			
February.....					609	372	7	21.0	1,210			
March.....					22,859	1,590	8	737	45,340			
April.....					29,058	1,230	636	935	55,650			
May.....					29,613	1,140	607	955	58,740			
June.....					33,880	1,380	903	1,129	67,200			
July.....					34,685	1,340	843	1,119	68,800			
August.....					18,674	993	7	602	37,040			
September.....					16,915	1,030	10	564	33,560			
Water year 1939-40.....					235,001	1,590	7	642	466,100			

GILA RIVER BASIN

Tonto Creek near Roosevelt, Ariz.

Location.- Staff gage, lat. 33°52', long. 111°18', in sec. 14, T. 6 N., R. 10 E., 16 miles upstream from Roosevelt Dam and 16 miles northwest of village of Roosevelt.

Drainage area.- 841 square miles (revised).

Records available.- October 1913 to September 1940.

Extremes.- Maximum discharge observed during year, 992 second-feet Feb. 1 (gage height, 3.45 feet, from floodmarks); minimum observed, 0.4 second-feet June 15-17, 19-22, July 16.

1913-40: Maximum discharge not determined; no flow at times during the drier years.

Remarks.- Records for low and uniform flow fair; those for high and varying flow poor. Staff gage read once daily. Several small diversions above station for irrigation. See page 267 for records for Salt River, which also contributes to Roosevelt Reservoir. During the year 52 discharge measurements were made.

Cooperation.- Gage readings furnished by Salt River Valley Water Users' Association.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7	2	11	8	299	40	5	6	2	3	1	1
2	6	2	10	8	252	40	10	6	1	2	1	1
3	6	2	10	8	427	40	56	6	1	2	6	21
4	5	2	10	8	267	40	56	5	1	.8	1	32
5	5	2	10	10	206	36	44	5	2	.8	46	22
6	5	2	8	10	138	31	38	4	1	.5	139	66
7	4	2	8	20	98	30	49	4	1	.5	33	29
8	3	2	8	24	78	26	44	4	1	.5	12	10
9	3	2	7	20	62	19	42	4	1	.8	7	7
10	3	3	7	20	54	15	38	4	1	.8	7	4
11	3	3	7	20	42	15	34	4	.9	.8	13	32
12	3	3	7	20	33	27	29	3	.8	.7	3	14
13	3	3	7	20	28	29	24	3	.7	.6	1	48
14	3	3	7	54	28	25	20	3	.7	.6	1	17
15	2	3	7	48	25	21	17	3	.4	.6	60	9
16	1	3	7	36	21	19	17	3	.4	.4	6	6
17	1	3	7	34	16	11	17	3	.4	.5	4	4
18	1	3	7	30	16	11	17	3	.5	4	2	14
19	1	3	7	26	16	13	15	3	.4	1	59	61
20	1	3	7	21	15	11	12	3	.4	.7	13	16
21	1	3	7	21	13	9	10	2	.4	.7	56	12
22	1	3	7	21	11	9	9	2	.4	.6	16	12
23	2	3	8	20	11	9	9	2	.9	.6	16	22
24	1	3	8	18	10	7	8	3	84	40	76	15
25	1	4	10	18	10	9	7	3	25	31	258	12
26	2	4	10	15	10	7	7	2	26	110	28	10
27	2	4	10	15	9	5	7	2	38	13	17	7
28	2	9	10	15	21	5	7	2	17	7	10	6
29	2	17	10	13	40	8	7	2	10	2	6	6
30	2	18	8	12	-	5	7	2	7	1	4	6
31	2	-	8	11	-	5	-	2	-	1	2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	84	7	1	2.7	167
November.....	119	18	2	4.0	236
December.....	255	11	7	8.2	506
Calendar year 1939.....	16,924.8	625	0	46.4	33,570
January.....	624	54	8	20.1	1,240
February.....	2,286	427	9	73.8	4,530
March.....	574	40	5	18.5	1,140
April.....	662	56	5	22.1	1,310
May.....	103	6	2	3.3	204
June.....	226.3	84	.4	7.54	449
July.....	228.5	110	.4	7.37	453
August.....	897.6	258	.6	23.0	1,780
September.....	523	66	1	17.4	1,040
Water year 1939-40.....	6,582.4	427	.4	18.0	13,060

Verde River near Camp Verde, Ariz.

Location.- Water-stage recorder, lat. $34^{\circ}27'$, long. $111^{\circ}47'$, in sec. 1, T. 12 N., R. 5 E., unsurveyed, a short distance downstream from Camp Verde dam site, about 750 feet upstream from Chasm Creek, and 9 miles southeast of Camp Verde. Datum of gage is 2,874.1 feet above mean sea level (general adjustment of 1929).

Drainage area.- 5,000 square miles (includes 344 square miles in Aubrey Valley Playa, a closed basin).

Records available.- April 1934 to September 1940. December 1912 to March 1920, at site 15 miles upstream published as Verde River at Camp Verde, Ariz., drainage area 4,220 square miles.

Extremes.- Maximum discharge during year, 7,560 second-feet Aug. 4 (gage height, 10.2 feet); minimum, 41 second-feet July 17.

1934-40: Maximum discharge, 97,000 second-feet Mar. 3, 1938 (gage height, 26.1 feet), by slope-area method, verified by comparison with records for other stations on Verde River; minimum, that of July 17, 1940.

Remarks.- Records good except those for periods of estimated gage heights, which are fair. Small diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
1	182	142	200	191	216	985	145	258	83	132	52	a170	
2	176	148	197	194	2,230	833	153	191	83	118	53	a170	
3	176	145	197	185	2,180	725	212	148	81	104	89	672	
4	173	145	200	185	1,840	561	597	122	72	102	476	423	
5	170	151	200	188	2,660	438	626	108	64	93	141	a280	
6	167	153	200	200	1,250	350	514	104	63	87	105	a230	
7	156	156	203	210	756	307	386	95	63	77	98	a200	
8	145	156	200	213	572	276	292	91	64	70	107	a185	
9	156	167	203	216	443	258	223	89	63	66	105	192	
10	153	185	200	220	354	258	170	87	73	61	100	223	
11	151	185	200	216	299	265	130	81	68	50	100	195	
12	148	179	200	226	261	268	118	83	68	46	94	190	
13	151	179	200	905	247	223	99	91	64	44	92	181	
14	148	173	200	684	233	200	91	83	66	44	380	162	
15	148	170	203	418	226	188	104	89	56	43	321	148	
16	148	173	203	315	220	182	99	83	54	43	207	140	
17	142	176	200	268	213	179	128	83	58	44	192	178	
18	145	179	200	250	206	182	165	87	48	50	266	238	
19	142	176	194	240	200	182	159	87	46	50	396	292	
20	142	176	191	226	194	173	182	89	56	48	224	356	
21	142	173	191	223	188	167	151	79	119	61	232	338	
22	142	176	194	216	185	165	128	79	108	66	320	615	
23	145	179	200	210	194	162	108	81	174	56	366	265	
24	145	179	200	210	194	151	125	97	130	58	756	220	
25	151	185	206	206	210	151	142	99	108	61	1,390	198	
26	148	185	203	203	386	156	142	104	211	61	639	190	
27	145	188	200	197	4,010	142	142	97	156	61	350	175	
28	148	197	197	191	1,860	135	145	95	148	59	a280	175	
29	148	200	197	185	1,310	135	393	93	135	56	a230	1,040	
30	140	203	194	185	-	138	405	89	138	48	a200	470	
31	138	-	188	185	-	132	-	81	-	48	a185	-	
Month						Second-foot-days		Maximum		Minimum		Mean	Run-off in acre-feet
October.....						4,711		182		133		152	9,340
November.....						5,179		203		142		173	10,270
December.....						6,161		206		183		199	12,220
Calendar year 1939						109,027		6,600		59		299	216,200
January.....						7,961		905		185		257	15,790
February.....						23,337		4,010		185		805	46,290
March.....						8,667		985		133		280	17,190
April.....						6,474		626		91		216	12,840
May.....						3,143		258		73		101	6,230
June.....						2,720		211		46		90.7	5,400
July.....						2,007		132		43		64.7	3,980
August.....						8,546		1,390		52		276	16,950
September.....						8,511		1,040		140		284	16,880
Water year 1939-40.....						87,417		4,010		43		239	173,400

Peak discharge.- Feb. 27 (5 a.m.) 6,040 sec.-ft.; Aug. 4 (7:45 p.m.) 7,560 sec.-ft.
 a Computed from gage heights estimated on basis of partial record and record for station below East Verde River near Pine.

GILA RIVER BASIN

Verde River below East Verde River, near Pine, Ariz.

Location.- Water-stage recorder, lat. $34^{\circ}16'$, long. $111^{\circ}41'$, in sec. 30, T. 11 N., R. 7 E., unsurveyed, 2½ miles downstream from East Verde River and 15 miles southwest of Pine. Zero of gage is 2,401.6 feet above mean sea level (general adjustment of (1929)).

Drainage area.- 5,610 square miles, revised (includes 344 square miles in Aubrey Valley Playa, a closed basin).

Records available.- June 1934 to September 1940.

Extremes.- Maximum discharge during year, 6,630 second-feet Aug. 4 (gage height, 10.83 feet); minimum, 62 second-feet July 15 (gage height, 6.23 feet), affected by regulation of flow of Fossil Creek by power plant.

1934-40: Maximum discharge, 110,000 second-feet Mar. 3, 1938 (gage height, 24.7 feet), by slope-area method, verified by comparison with records for other stations on Verde River; minimum, 48 second-feet (regulated) July 17, 1939 (gage height, 6.22 feet).

Remarks.- Records good. Several small diversions above station for irrigation. Some regulation by power plant, 9 miles upstream, using water from Fossil Creek.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
1	227	188	254	223	284	1,070	213	353	127	180	93	198	
2	223	198	250	235	2,460	907	237	290	119	174	96	180	
3	216	198	231	235	2,790	806	232	228	119	161	96	563	
4	216	194	235	231	1,910	709	491	180	124	139	580	575	
5	216	191	242	235	2,880	570	752	148	116	136	697	334	
6	212	202	246	242	1,590	461	666	161	114	133	191	258	
7	202	212	246	246	1,020	407	512	161	111	127	157	237	
8	194	212	250	262	785	378	407	157	111	119	151	209	
9	194	227	246	276	635	350	340	151	98	119	148	224	
10	205	246	231	267	531	318	266	142	101	111	236	253	
11	205	242	235	258	430	345	224	127	121	106	144	262	
12	205	223	242	254	401	350	187	116	119	93	133	241	
13	208	227	235	681	366	324	170	142	111	84	141	237	
14	208	235	242	941	345	285	164	148	108	82	323	224	
15	184	227	242	567	329	258	167	142	101	73	456	177	
16	198	231	238	429	318	249	174	142	84	84	314	167	
17	198	231	227	367	313	224	180	130	93	84	266	194	
18	191	227	231	331	299	237	224	130	101	89	345	280	
19	194	216	242	317	304	245	224	124	98	91	582	324	
20	188	219	238	302	294	232	241	133	89	93	378	383	
21	191	219	231	284	290	220	220	139	119	86	366	424	
22	178	219	231	284	280	220	224	130	157	98	343	614	
23	181	219	235	280	285	217	191	133	169	103	527	350	
24	198	231	238	280	290	198	184	142	209	188	770	285	
25	198	231	238	280	275	194	209	136	170	152	1,280	249	
26	198	227	238	280	324	213	213	127	387	103	883	228	
27	191	223	246	276	3,460	217	220	142	272	103	466	217	
28	194	242	242	254	1,970	206	194	139	224	86	324	227	
29	178	262	246	262	1,450	208	327	142	194	86	271	768	
30	184	262	246	276	-	209	537	136	180	96	241	742	
31	181	-	223	254	-	194	-	136	-	93	224	-	
Month						Second-foot-days		Maximum		Minimum		Mean	Run-off in acre-feet
October.....						6,156		227		178		199	12,210
November.....						6,681		262		188		223	13,250
December.....						7,417		254		223		239	14,710
Calendar year 1939.....						130,139		7,160		68		357	258,100
January.....						9,909		941		223		320	19,650
February.....						26,908		3,460		275		928	53,370
March.....						11,019		1,070		194		355	21,860
April.....						8,590		752		164		286	17,040
May.....						4,837		383		116		156	9,590
June.....						4,246		387		84		142	8,420
July.....						3,472		188		73		112	6,390
August.....						11,222		1,280		93		362	22,260
September.....						9,624		768		167		321	19,090
Water year 1939-40						110,081		3,460		73		301	218,500

Peak discharge.- Feb. 27 (7 a.m.) 5,290 sec.-ft.; Aug. 4 (10 p.m.) 6,630 sec.-ft.

Verde River above Bartlett Reservoir, near Cave Creek, Ariz.

Location.- Water-stage recorder, lat. 33°37', long. 111°41', in SE¼ sec. 13, T. 7 N., R. 6 E., unsurveyed, 16 miles upstream from Bartlett Dam and 17 miles northeast of Cave Creek post office. Datum of gage is 1,829.5 feet above mean sea level (general adjustment of 1929).

Drainage area.- 6,040 square miles (revised).

Records available.- September 1938 to September 1940. August to September 1889, January 1895 to November 1899, January 1901 to February 1925, at site 38 miles downstream and three quarters of a mile upstream from mouth, published as Verde River near McDowell, Ariz. (drainage area, 6,620 square miles, revised). February 1925 to February 1939, at site 21 miles downstream, published as Verde River above Camp Creek near McDowell, Ariz. (drainage area, 6,180 square miles, revised).

Average discharge.- 15 years (1925-40), 597 second-feet.

Extremes.- Maximum discharge during year, 5,020 second-feet Feb. 27 (gage height, 8.62 feet); minimum, 63 second-feet July 16 (gage height, 2.75 feet).

1938-40: Maximum discharge, 100,000 second-feet Mar. 3, 1938 (gage height 25.0 feet, from floodmarks), based on comparison of peak discharge at other stations on Verde River; minimum, 56 second-feet, July 18, 1939 (gage height, 2.55 feet).

Flood of Mar. 3, 1938, is known to be the highest, at least since 1924.

Remarks.- Records excellent. Small diversions above station. Low flow slightly regulated by power plant, 45 miles above station, using water from Fossil Creek. During the year 102 discharge measurements were made.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.		
1	264	189	285	237	329	1,240	209	412	117	165	76	249		
2	241	195	278	244	1,090	989	232	324	110	163	76	221		
3	237	203	267	257	3,520	982	242	267	104	158	78	357		
4	231	203	244	254	2,110	764	256	215	95	148	107	688		
5	228	200	257	254	2,710	630	604	176	99	130	887	446		
6	228	189	257	254	2,180	524	646	150	99	123	349	316		
7	212	195	261	254	1,230	452	563	150	95	119	196	259		
8	209	206	261	261	865	412	444	150	94	113	163	238		
9	198	234	264	285	701	361	382	145	94	106	153	206		
10	200	247	257	292	589	357	324	141	87	106	146	232		
11	206	254	241	296	490	324	259	134	83	101	233	268		
12	206	247	247	296	421	343	225	121	97	94	143	274		
13	206	228	247	296	390	353	190	113	95	87	134	235		
14	206	244	247	971	361	316	176	123	92	80	220	232		
15	209	247	254	692	336	289	165	132	91	74	355	212		
16	189	244	257	512	320	270	171	130	86	68	361	171		
17	203	247	254	422	316	259	184	126	80	70	289	202		
18	200	244	234	368	316	242	182	121	72	69	245	225		
19	195	237	244	347	297	252	212	117	86	70	525	289		
20	195	225	244	330	301	256	209	113	84	72	445	332		
21	192	234	241	314	289	245	225	115	80	74	384	366		
22	195	234	241	296	285	232	209	123	97	74	350	490		
23	183	234	241	307	285	228	212	123	134	70	417	492		
24	189	237	247	300	282	225	184	123	143	83	502	336		
25	200	244	250	296	285	209	182	126	213	271	1,070	289		
26	209	250	244	296	278	212	193	123	320	146	1,240	252		
27	206	231	254	288	2,280	225	199	115	506	106	609	242		
28	198	250	257	285	2,440	225	209	126	245	97	408	221		
29	198	281	261	267	1,660	212	187	123	209	84	320	256		
30	186	281	257	271	-	212	335	123	182	74	282	1,020		
31	192	-	254	274	-	212	-	119	-	80	259	-		
Month					Second-foot-days		Maximum		Minimum		Mean		Run-off in acre-feet	
October.....					6,414		264		183		207		12,720	
November.....					6,957		281		187		232		13,800	
December.....					7,847		285		234		253		15,560	
Calendar year 1939.....					136,603		9,030		61		374		270,900	
January.....					10,316		971		237		333		20,460	
February.....					26,956		3,520		273		930		53,470	
March.....					11,937		1,240		207		386		23,720	
April.....					8,010		646		167		267		15,890	
May.....					4,702		412		113		152		9,350	
June.....					3,969		506		77		133		7,910	
July.....					5,275		271		67		106		6,500	
August.....					11,022		1,240		77		356		21,860	
September.....					9,636		1,020		177		321		19,110	
Water year 1939-40					111,061		3,520		67		304		220,300	

Peak discharge.- Feb. 3 (3 a.m.) 4,740 sec.-ft.; Feb. 5 (6 p.m.) 3,210 sec.-ft.; Feb. 27 (4:15 p.m.) 5,020 sec.-ft.

Bartlett Reservoir at Bartlett Dam, Ariz.

Location.- Water-stage recorder, lat. 33°49', long. 111°38', in sec. 34, T. 6 N., R. 7 E., unsurveyed, at Bartlett Dam on Verde River. Datum of gage is 1,610.00 feet (general adjustment of 1912) or 1,609.46 feet (general adjustment of 1929) above mean sea level.

Drainage area.- 6,160 square miles at Bartlett Dam.

Records available.- July 1939 to September 1940.

Extremes.- 1939: Maximum contents during period February to September, 51,000 acre-feet Sept. 16 (gage height, 118.35 feet); no storage at times.

1939-40: Maximum contents during water year, 24,900 acre-feet Feb. 11 (gage height, 88.19 feet); no storage at times.

Remarks.- Reservoir is formed by concrete multiple-arch dam; storage began Feb. 5, 1939; dam completed in May 1939. Capacity, 182,600 acre-feet between gage-heights zero (sill of outlet gates) and 188.0 feet (top of spillway gates). Natural flow passing through reservoir when outlet gates are open prevents withdrawal of storage to gage height of gate sill. There is no dead storage. Water is used for irrigation of lands below reservoir and for municipal supply.

Cooperation.- Water-stage recorder graph July 22 to Nov. 24, 1939, and capacity table furnished by Bureau of Reclamation.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Prepared by Bureau of Reclamation from surveys by that Bureau)

5	5	21	770	53	7,940	132	68,200
10	93	24	1,090	67	13,300	153	102,200
12	169	28	1,630	81	20,600	177	153,700
15	320	34	2,730	97	31,200	188	182,600
18	519	42	4,620	114	46,300		

Gage height at 12 p.m. in feet, 1939-40

1939											
Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.
1	-	3.48	17.37	11	-	22.25	76.8	21	-	17.36	108.7
2	-	3.62	16.53	12	-	15.68	87.6	22	1.76	16.13	105.6
3	-	15.22	15.60	13	-	13.90	95.2	23	4.08	17.72	102.6
4	-	11.20	16.60	14	-	13.83	114.4	24	3.49	17.12	99.7
5	-	19.48	17.78	15	-	16.38	117.6	25	3.18	16.18	97.3
6	-	21.02	19.50	16	-	16.12	118.3	26	3.13	15.27	96.0
7	-	21.48	49.40	17	-	16.42	118.0	27	3.60	15.07	94.1
8	-	29.66	64.80	18	-	17.43	116.2	28	3.70	15.59	92.0
9	-	30.68	69.8	19	-	16.76	114.3	29	3.70	16.60	89.70
10	-	29.42	74.8	20	-	17.11	111.3	30	3.54	16.73	87.30
								31	3.53	17.28	-

Note.- Intake operation faulty Sept. 8-28; gage heights obtained from partial record and from graph based on frequent determinations by means of level.

1939-40

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	84.74	60.85	54.64	24.30	33.21	85.71	46.38	32.62	24.54	37.32	(a)	40.64
2	81.33	60.40	55.00	26.50	37.57	86.05	45.23	34.22	23.87	37.57	(a)	41.66
3	77.08	59.90	55.35	25.28	59.13	86.92	43.10	35.18	23.12	37.63	(a)	43.00
4	76.63	59.48	55.22	21.70	67.57	86.92	39.70	35.71	22.17	37.29	(a)	47.10
5	75.04	58.98	54.40	16.00	75.97	85.61	36.31	35.69	21.67	36.58	28.27	46.87
6	74.18	58.52	53.06	(a)	82.65	83.54	38.53	35.83	21.14	35.13	30.72	49.52
7	73.25	58.02	51.27	(a)	85.35	80.29	38.07	35.64	20.62	33.55	29.59	49.13
8	72.83	57.60	48.63	12.82	86.56	76.48	36.67	35.49	20.30	31.73	27.68	47.62
9	72.05	57.70	45.30	15.18	87.32	71.79	34.42	35.32	19.88	28.73	24.48	45.46
10	71.25	57.94	41.78	16.97	87.92	67.26	31.18	35.09	19.45	28.20	20.00	43.21
11	70.50	56.20	37.27	17.85	88.19	65.60	26.59	34.82	18.67	26.52	14.20	41.27
12	69.74	54.94	29.57	18.70	87.87	63.99	18.27	34.47	18.28	24.60	(a)	39.40
13	68.96	55.60	(a)	19.45	86.72	63.41	15.22	33.97	18.08	22.26	(a)	37.04
14	68.29	56.58	(a)	28.32	84.83	62.80	15.35	33.40	17.79	19.27	16.07	34.44
15	67.85	57.15	116.5	32.22	82.92	61.87	16.85	33.02	17.73	13.31	15.51	31.90
16	67.13	57.94	23.41	32.18	81.49	61.74	17.05	32.63	17.85	(a)	14.51	28.84
17	66.66	58.66	27.35	31.00	80.94	61.43	17.74	32.19	17.71	(a)	12.72	28.08
18	66.58	58.80	30.27	28.50	80.41	60.74	18.18	31.75	17.20	(a)	12.21	29.43
19	66.44	57.37	32.80	24.94	79.56	60.13	19.30	31.28	17.55	(a)	20.00	28.74
20	66.30	57.60	35.13	22.56	78.03	59.74	20.58	30.76	18.40	(a)	25.30	28.58
21	66.19	58.00	37.28	23.20	75.81	59.31	21.81	30.07	18.94	(a)	28.34	29.01
22	66.07	58.60	39.27	23.10	73.88	58.91	22.68	29.60	19.43	(a)	30.77	28.40
23	65.84	58.28	41.05	21.63	73.70	58.85	23.52	29.11	20.66	(a)	32.91	28.32
24	65.19	59.95	42.90	17.52	73.38	58.78	24.04	28.68	21.68	(a)	32.84	24.07
25	64.69	59.41	44.70	(a)	72.78	58.64	24.23	28.23	23.36	16.0	36.17	25.36
26	64.20	57.65	42.98	(a)	72.06	58.43	24.62	27.86	27.70	19.0	42.59	25.30
27	63.68	55.57	38.52	(a)	76.87	56.82	25.20	27.28	32.45	19.95	43.58	25.25
28	63.10	55.90	27.83	16.58	82.98	54.72	26.98	26.69	34.30	18.35	42.63	24.62
29	62.61	53.88	(a)	23.01	85.05	52.94	28.30	26.20	35.70	16.36	40.18	24.17
30	62.04	54.26	(a)	26.87	-	51.05	29.65	25.59	36.68	12.60	37.81	31.55
31	61.42	-	20.00	30.03	-	48.82	-	25.14	-	(a)	39.32	-

a Gage height below 12.0 feet, lowest operating intake.

b Intake plugged; gage height determined from records of inflow and outflow and of gate operation.

Contents at 12 p.m., in acre-feet, of Bartlett Reservoir at Bartlett Dam, Ariz., 1939-40

1939								
Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.
1	-	474	11	894	18,000	21	475	41,100
2	-	416	12	362	24,700	22	389	38,300
3	333	356	13	259	29,800	23	499	35,700
4	136	566	14	261	46,700	24	456	35,300
5	636	504	15	406	50,200	25	393	31,400
6	772	538	16	388	50,900	26	356	30,400
7	817	6,770	17	408	50,600	27	324	29,000
8	1,910	12,300	18	478	48,600	28	355	27,500
9	2,090	14,600	19	431	46,600	29	421	25,900
10	1,870	17,100	20	455	43,600	30	430	24,400
						31	466	-

Note.- Contents Feb. 5 to Mar. 14 and Apr. 6 to Aug. 2 was less than 1,000 acre-feet; Mar. 15 to Apr. 5 was less than 8,000 acre-feet; determined from inflow and outflow records.

1939-40

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22,700	10,800	8,500	1,120	2,570	23,300	5,840	2,450	1,150	3,450	(a)	4,260
2	20,700	10,600	8,630	1,410	3,510	23,600	5,510	2,770	1,070	3,510	(a)	4,530
3	18,600	10,400	8,750	1,240	10,100	24,100	4,910	2,980	990	3,530	(a)	4,890
4	17,700	10,300	8,710	840	13,500	24,100	4,030	3,090	890	3,450	(a)	6,060
5	17,200	10,100	8,420	380	17,700	23,300	3,690	3,130	840	3,280	1,680	6,600
6	16,700	9,900	7,960	(a)	21,500	22,000	3,740	3,120	780	2,970	2,090	6,800
7	16,300	9,710	7,370	(a)	23,100	20,100	3,630	3,080	740	2,640	1,950	6,680
8	16,000	9,560	6,520	210	23,900	18,000	3,310	3,040	710	2,280	1,590	6,220
9	15,700	9,590	5,530	330	24,400	15,500	2,820	3,010	670	1,920	1,150	5,580
10	15,300	9,640	4,560	450	24,800	13,400	2,180	2,960	630	1,660	680	4,940
11	14,900	9,050	3,440	510	24,900	12,700	1,420	2,900	570	1,410	280	4,430
12	14,500	8,610	1,590	570	24,700	12,000	540	2,830	540	1,160	(a)	3,950
13	14,200	8,840	(a)	630	24,000	11,800	330	2,720	530	900	(a)	3,390
14	13,900	9,120	(a)	1,680	22,800	11,500	340	2,610	500	620	390	2,820
15	13,700	9,390	414	2,370	21,600	11,200	440	2,550	500	230	350	2,510
16	13,300	9,680	1,020	2,370	20,800	11,100	450	2,450	510	(a)	290	1,770
17	13,100	9,950	1,530	2,140	20,500	11,000	500	2,370	500	(a)	200	1,650
18	13,000	10,000	2,010	1,680	20,200	10,700	530	2,290	460	(a)	180	1,870
19	13,000	9,470	2,490	1,200	19,700	10,500	620	2,200	490	(a)	680	1,750
20	13,000	9,560	2,970	930	18,800	10,400	730	2,100	550	(a)	1,250	1,730
21	12,900	9,700	3,440	1,000	17,600	10,200	860	1,980	590	(a)	1,690	1,800
22	12,900	9,930	3,920	980	16,600	10,000	940	1,900	630	(a)	2,100	1,700
23	12,800	10,200	4,370	850	16,500	10,000	1,030	1,810	740	(a)	2,510	1,680
24	12,500	10,400	4,860	480	16,500	10,000	1,090	1,740	840	(a)	2,480	1,100
25	12,300	10,200	5,360	(a)	16,000	9,940	1,120	1,670	1,010	380	3,190	1,280
26	12,100	9,580	4,880	(a)	15,700	9,860	1,160	1,610	1,590	600	4,780	1,250
27	11,900	8,830	3,740	(a)	15,200	9,270	1,240	1,520	2,420	680	5,050	1,240
28	11,700	8,210	1,610	420	21,700	8,530	1,480	1,440	2,790	550	4,790	1,160
29	11,500	8,240	(a)	980	22,900	7,920	1,680	1,370	3,090	400	4,150	1,110
30	11,200	8,370	(a)	1,460	-	7,280	1,910	1,300	3,310	200	3,570	2,250
31	11,000	-	680	1,970	-	6,580	-	1,230	-	(a)	3,930	-

a Contents below 169 acre-feet.

Monthly gage height and contents, 1939-40

Date	Gage height (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
July 31, 1939.....	3.53	0	-
Aug. 31.....	17.25	470	+470
Sept. 30.....	87.37	24,400	+23,900
The period.....	-	-	+24,400
Oct. 31, 1939.....	61.42	11,000	-13,400
Nov. 30.....	54.26	8,370	-2,630
Dec. 31.....	20.00	680	-7,690
Calendar year 1939.....	-	-	+680
Jan. 31, 1940.....	30.03	1,970	+1,290
Feb. 29.....	35.05	22,900	+20,900
Mar. 31.....	48.82	6,580	-16,300
Apr. 30.....	29.65	1,910	-4,670
May 31.....	25.14	1,230	-680
June 30.....	36.68	3,310	+2,080
July 31.....	-	(a)	-3,310
Aug. 31.....	39.32	3,930	+3,930
Sept. 30.....	31.55	2,250	-1,680
Water year 1939-40.....	-	-	-22,200

a Stage below gage height of lowest operating intake, which corresponds to contents of 169 acre-feet. Contents on July 31 assumed to be zero.

GILA RIVER BASIN

Verde River above Camp Creek, near McDowell, Ariz.

Location.— Water-stage recorder, lat. 33°47', long. 111°39', in sec. 16, T. 5 N., R. 7 E., unsurveyed, half a mile upstream from Camp Creek, 5.3 miles downstream from Bartlett Dam, and 10 miles north of McDowell. Datum of gage is 1,529.8 feet above mean sea level (general adjustment of 1929).

Drainage area.— 6,180 square miles (revised).

Records available.— February 1925 to September 1940. August to September 1886, January 1895 to November 1899, and January 1901 to February 1925, at site 17 miles downstream from present site and three-quarters of a mile above mouth.

Average discharge.— 37 years (1903-40), 784 second-feet (adjusted for storage in Bartlett Reservoir since 1939).

Extremes.— Maximum discharge during year, 2,120 second-feet (regulated) Mar. 9 (gage height, 7.63 feet); minimum, 3 second-feet (regulated) Dec. 22-26.

1897-1939: Maximum discharge at present site (prior to completion of Bartlett Reservoir), 95,000 second-feet Mar. 4, 1938 (gage height, 21.9 feet) from rating curve extended above 44,000 second-feet on basis of slope-area computation, velocity-area studies, logarithmic extension, and relation of mean depth to discharge per unit width, verified by comparison of peak discharge and total run-off of flood with peak discharge and total run-off of flood at other stations on Verde River and at stations on Salt and Gila Rivers; minimum, 32 second-feet July 19, 20, 1904. Maximum discharge at former site, 96,000 second-feet (estimated) Nov. 27, 1905.

1939-40 (regulated); Maximum discharge, that of Sept. 11, 1939, and Mar. 9, 1940; minimum, that of Dec. 22-26, 1940.

Remarks.— Records excellent. Small diversions above station. Flow regulated at Bartlett Dam since Feb. 5, 1939 (see p. 274). During the year 72 discharge measurements were made.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Avg.	Sept.
1	1,090	298	200	55	26	1,090	620	150	150	80	84	84
2	1,280	298	217	52	102	968	375	155	144	117	78	84
3	1,560	290	197	503	212	632	512	155	142	126	76	84
4	742	290	287	443	351	746	686	152	136	164	76	93
5	517	290	403	453	327	1,050	699	152	122	191	76	194
6	448	286	517	350	362	1,180	650	152	117	252	160	217
7	479	282	579	259	413	1,400	638	155	115	278	256	290
8	270	286	711	237	512	1,490	632	155	106	278	318	469
9	377	223	774	244	485	1,650	638	155	106	278	353	540
10	380	171	761	248	389	1,530	638	155	104	220	362	540
11	375	534	793	256	398	755	638	155	104	217	366	560
12	375	524	1,010	263	504	730	638	155	97	213	249	549
13	375	119	1,060	253	761	510	346	155	95	213	144	540
14	366	97	312	263	978	448	200	161	95	206	126	528
15	298	97	257	335	978	501	147	161	88	197	261	474
16	357	97	28	495	815	314	158	161	76	120	375	443
17	302	93	10	501	512	318	161	155	76	73	314	333
18	217	146	6	574	474	385	164	155	76	68	256	73
19	210	573	5	574	539	380	164	155	68	70	252	306
20	203	175	4	463	749	331	161	155	52	70	200	310
21	203	150	4	270	942	331	164	152	54	73	134	323
22	206	101	3	278	665	318	164	152	55	75	152	438
23	213	101	3	444	384	241	161	152	62	75	126	551
24	302	101	3	343	357	237	155	152	72	75	383	690
25	310	297	3	415	448	237	155	150	72	84	534	240
26	310	597	382	290	458	237	155	152	61	89	495	263
27	306	626	783	278	570	473	155	155	67	95	545	237
28	306	614	1,310	242	832	620	91	155	70	147	568	263
29	302	274	993	18	1,090	528	67	155	67	142	644	267
30	298	223	310	7	-	517	144	158	70	132	655	327
31	298	-	136	5	-	556	-	152	-	108	101	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	13,075	1,360	203	422	25,930
November.....	8,243	626	93	275	16,350
December.....	12,041	1,310	3	398	23,890
Calendar year 1939.....	136,269	1,900	3	373	270,300
January.....	9,211	574	5	297	18,270
February.....	15,833	1,090	26	546	31,400
March.....	20,703	1,650	237	668	41,060
April.....	10,276	699	67	343	20,380
May.....	4,789	161	150	154	9,500
June.....	2,719	150	52	90.6	5,390
July.....	4,526	278	68	146	8,980
August.....	8,719	655	76	281	17,290
September.....	10,301	690	73	343	20,430
Water year 1939-40.....	120,436	1,650	3	329	238,900

Note.— Increase in contents in Bartlett Reservoir during calendar year 1939 was equivalent to a mean discharge of 0.94 second-foot; decrease during water year 1939-40 was equivalent to a mean discharge of 30.5 second-feet.

GILA RIVER BASIN

Granite Creek near Prescott, Ariz.

Location.— Water-stage recorder, lat. $34^{\circ}34'$, long. $112^{\circ}27'$, in SW $\frac{1}{4}$ sec. 26, T. 14 N., R. 2 W., unsurveyed, at highway bridge, 2 miles north of Prescott, and $4\frac{1}{2}$ miles upstream from Willow Creek. Datum of gage is 5,207.3 feet above mean sea level (Arizona Highway Department bench mark).

Drainage area.— 39 square miles.

Records available.— July 1932 to September 1940.

Extremes.— Maximum discharge during year, 83 second-feet Sept. 29 (gage height, 4.36 feet); no flow on many days.
1932-40: Maximum discharge, 2,900 second-feet Feb. 7, 1937, from rating curve extended above 1,500 second-feet; no flow during part of each year.

Remarks.— Records good. City of Prescott takes water for municipal supply from storage reservoirs on tributaries of creek. Water stored for irrigation in reservoir 3 miles below station (capacity, about 4,000 acre-feet).

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1	0	0.1	0.1	39	18	18	0.4	0.1		0	0
2	.9	0	.2	.1	56	15	22	.2	.1		0	3
3	.6	.1	.2	.1	33	12	16	.1	.1		0	3
4	.6	0	.2	.2	30	9	14	.1	.1		0	0
5	.6	0	.2	1	25	7	12	.1	.1		0	0
6	.4	0	.2	.3	17	7	10	.1	.1		0	0
7	.4	0	.2	.3	14	6	8	.1	.1		0	0
8	.3	0	.2	2	10	4	6	.1	.1		0	0
9	.4	.3	.2	2	7	4	4	.1	.1		0	0
10	.3	.1	.2	2	6	4	4	0	.1		0	0
11	.2	.1	.2	2	6	3	3	0	.1		0	.6
12	.2	.1	.2	7	4	3	2	0	.1		0	0
13	.2	.1	.2	7	4	2	2	0	0		0	0
14	.2	0	.2	3	4	2	2	0	0		0	0
15	.1	0	.2	2	4	2	1	0	0		0	0
16	.1	0	.2	1	3	2	2	0	0		0	0
17	.1	0	.2	1	3	2	2	0	0		0	0
18	.1	0	.2	.9	3	1	2	0	0		0	0
19	.1	0	.2	.6	2	1	2	.1	0		0	0
20	.1	0	.2	.4	2	2	1	.1	0		0	0
21	.1	0	.2	.4	2	1	.9	.1	0		0	0
22	.1	0	.2	.2	2	1	.6	.1	0		0	0
23	0	0	.2	.2	3	.8	1	.1	0		0	0
24	0	0	.1	.3	3	.8	1	.1	0		0	0
25	0	0	.1	.2	3	.6	.6	.1	0		0	0
26	0	0	.1	.3	30	.5	.5	.1	0		0	0
27	0	0	.1	.2	23	.5	.9	.1	0		0	0
28	0	.1	.1	.2	16	.5	.9	.1	0		0	4
29	0	.1	.1	.2	14	.4	.6	.1	0		0	10
30	0	.1	.1	.2	-	.4	.4	.1	0		0	0
31	0	-	.1	.2	-	.4	-	.1	-		2	-
Month					Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet		
October.....					7.1		1	0	0.23	14		
November.....					1.1		.3	0	.04	2.2		
December.....					5.3		.2	.1	.17	11		
Calendar year 1939.....					929.3		85	0	2.55	1,840		
January.....					35.6		7	.1	1.15	71		
February.....					368		56	2	12.7	730		
March.....					112.9		18	.4	3.64	224		
April.....					142.8		22	.4	4.76	283		
May.....					2.6		.4	0	.08	5.2		
June.....					1.2		.1	0	.04	2.4		
July.....					0		0	0	0	0		
August.....					2		2	0	.06	4.0		
September.....					20.6		10	0	.69	41		
Water year 1939-40					699.2		56	0	1.91	1,390		

Peak discharge.— Feb. 1 (7 p.m.) 81 sec.-ft.; Feb. 2 (1:30 a.m.) 79 sec.-ft.; Feb. 26 (11 a.m.) 48 sec.-ft.; Sept. 29 (12:30 a.m.) 83 sec.-ft.

GILA RIVER BASIN

Oak Creek near Cornville, Ariz.

Location.- Water-stage recorder, lat. $34^{\circ}46'$, long. $111^{\circ}53'$, in SE $\frac{1}{4}$ sec. 23, T. 16 N., R. 4 E., at bridge 0.2 mile upstream from Page Springs, 4 miles northeast of Cornville, and 11 miles upstream from mouth. Prior to July 12, 1940, staff gage at same site and datum.

Drainage area.- 357 square miles.

Records available.- July to September 1940.

Extremes.- Maximum discharge during period of record, 1,200 second-feet Aug. 23 (gage height, 5.25 feet); minimum, 6 second-feet July 27 (gage height, 1.98 feet).
Maximum stage known, 23 feet from floodmarks, on Mar. 3, 1938 (discharge not determined).

Remarks.- Records good except those for period of no gage-height record which are poor. Several small diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1											14	27
2											16	161
3											17	162
4											19	49
5											19	39
6										18	24	3e
7										12	22	38
8										10	23	35
9										9	20	32
10										8	21	30
11										13	23	29
12										13	21	41
13										10	45	35
14										10	76	30
15										11	24	28
16										15	21	28
17										20	18	39
18										17	18	56
19										18	19	45
20										18	82	37
21										16	31	36
22										15	35	38
23										14	158	35
24										12	97	35
25										10	340	34
26										10	94	32
27										10	42	32
28										8	36	32
29										10	34	270
30										16	30	52
31										15	28	-

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October.....					
November.....					
December.....					
Calendar year					
January.....	-	-	-	-	-
February.....	-	-	-	-	-
March.....	-	-	-	-	-
April.....	-	-	-	-	-
May.....	-	-	-	-	-
June.....	-	-	-	-	-
July.....	438	20	8	14.1	869
August.....	1,467	340	14	47.3	2,910
September.....	1,573	270	27	52.4	3,120
The period.....	-	-	-	-	6,900

Peak discharge.- Aug. 23 (7:45 p.m.) 1,200 sec.-ft.; Aug. 25 (7:30 a.m.) 1,020 sec.-ft.; Sept. 29 (2:30 a.m.) 1,050 sec.-ft.

a No gage-height record; discharge computed on basis of weather records and records for Verde River at Camp Verde and Verde River below East Verde River near Pine.

Diversion for city of Phoenix from Verde River, at McDowell, Ariz.

Location.- Water-stage recorder and weir, lat. $33^{\circ}34'$, long. $111^{\circ}40'$, in NE $\frac{1}{4}$ sec. 30, T. 3 N., R. 7 E., on canal, 2 miles northwest of mouth of Verde River, 3.9 miles downstream from intake, and $4\frac{1}{2}$ miles south of McDowell.

Records available.- February 1922 to September 1940 (monthly diversion).

Remarks.- Water is diverted from infiltration galleries and shallow wells on right bank of Verde River in SE $\frac{1}{4}$ sec. 6, T. 3 N., R. 7 E., three-quarters of a mile downstream from McDowell and $\frac{1}{2}$ miles (revised) upstream from mouth of Verde River, for municipal supply of Phoenix, and is carried 29 miles to that city by pipe line. Negligible amount of waste occurs below point of measurement.

Cooperation.- Records collected by city of Phoenix and furnished by Salt River Valley Water Users' Association.

Monthly diversion, in second-feet, water year October 1939 to September 1940

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	26	16	20.9	1,290
November.....	25	7	15.0	893
December.....	20	15	17.2	1,060
Calendar year 1939....	39	4	22.6	16,540
January.....	21	15	17.9	1,100
February.....	27	0	18.7	1,070
March.....	29	22	25.1	1,540
April.....	31	22	27.8	1,660
May.....	37	26	33.3	2,050
June.....	44	31	37.1	2,200
July.....	46	32	38.6	2,370
August.....	44	31	38.1	2,340
September.....	38	19	29.3	1,750
Water year 1939-40....	46	0	26.6	19,320

Diversions from Salt River at Granite Reef Dam, Ariz.

Location.- Water-stage recorders at heads of Arizona and South canals, which divert on right and left banks, respectively, at Granite Reef Dam on Salt River, in lat. $33^{\circ}31'$, long. $111^{\circ}42'$, $3\frac{1}{2}$ miles downstream from Verde River.

Records available.- January 1913 to September 1940 (monthly diversion).

Remarks.- Records given herein are those of discharge at the two gaging stations less flow returned from the canals to the river by wasteways between stations and irrigated lands. They represent the flow diverted from Salt River for irrigation. Discharge at gaging stations computed on basis of gage heights and frequent current-meter measurements; flow returned to river at canal wasteways computed from records for rated gates or weirs. Water is used for irrigation of lands in Salt River Valley in vicinity of Phoenix.

Flow at Granite Reef Dam is regulated by Roosevelt Dam, completed in 1913, and three other dams on Salt River between Roosevelt Dam and mouth of Verde River (see p. 268), namely, Mormon Flat Dam, completed in 1925, Horse Mesa Dam, completed in 1927, and Stewart Mountain Dam, completed in 1930, and by Bartlett Dam on Verde River, completed in 1939.

Cooperation.- Records furnished by Salt River Valley Water Users' Association.

Monthly diversion, in second-feet, water year October 1939 to September 1940

Month	Maximum	Minimum	Mean	Run-off in acre-feet
October.....	1,310	836	1,029	63,290
November.....	1,080	275	727	43,280
December.....	1,900	225	701	43,090
Calendar year 1939....	2,080	215	1,055	754,300
January.....	540	126	369	22,700
February.....	897	177	527	30,300
March.....	1,860	680	1,539	82,310
April.....	1,520	728	1,235	75,490
May.....	1,230	729	1,047	64,390
June.....	1,380	952	1,141	67,880
July.....	1,290	825	1,153	70,910
August.....	1,030	488	779	47,880
September.....	1,380	253	822	48,930
Water year 1939-40....	1,900	126	907	658,400

GILA RIVER BASIN

Agua Fria River near Mayer, Ariz.

Location.- Water-stage recorder, lat. $34^{\circ}19'$, long. $112^{\circ}04'$, in NW $\frac{1}{4}$ sec. 20, T. 11 N., R. 3 E., at Sycamore dam site, 700 feet downstream from Bigbug Creek and 12 miles southeast of Mayer. Altitude of gage, 3,434 feet (levels by Maricopa County Municipal Water Conservation District No. 1).

Drainage area.- 588 square miles.

Records available.- January to September 1940.

Extremes.- Maximum discharge during period, 5,920 second-feet June 26 (gage height, 8.80 feet) from rating curve extended above 700 second-feet on basis of slope-area determinations at gage heights 9.44 and 11.97 feet; minimum, 0.1 second-foot July 28-30 and Aug. 2-3.

Remarks.- Records good except those for periods of no gage-height record and those above 100 second-feet, which are fair. Diversions above station for irrigation and mining. Figures of daily discharge do not include water diverted just above station to Perry canal.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					19	3	0.9	0.3	2	5	0.2	1
2					200	3	.7	.3	2	4	.1	500
3					a20	2	.6	.3	1	3	.1	20
4					a15	2	.6	.3	1	2	.2	1
5					a15	2	.7	.3	1	2	6	.7
6					a10	2	.8	.3	1	2	.2	.7
7					a10	2	.8	.3	1	2	.2	.5
8					8	2	.8	.4	1	2	.2	.4
9					6	2	.7	.4	1	1	.2	.4
10					5	2	.7	.4	1	1	110	2
11					5	2	.7	.4	1	1	30	50
12					4	2	.8	.4	1	1	2	60
13				a3	4	3	.8	.4	1	.4	4	4
14					5	3	.8	.4	1	.2	150	2
15					5	3	.6	.4	1	.2	4	2
16					4	3	.8	.4	1	.2	1	2
17					4	3	.9	.4	1	.2	30	13
18					4	3	.8	.4	1	.2	200	2
19					4	3	.8	.5	1	.2	22	6
20					4	3	.4	.5	1	.2	12	.7
21					4	3	.5	.4	100	.2	80	.5
22					5	3	.4	.4	50	.2	3	.4
23					5	2	.3	150	2	.2	20	.3
24				2	4	.5	.3	50	2	.2	110	.3
25				3	4	.7	.3	3	2	.2	40	.3
26				3	4	.5	.3	2	550	.2	2	.3
27				3	3	.5	.3	2	130	.2	2	.4
28				3	3	.5	.3	2	16	.1	2	130
29				2	3	.5	.3	2	10	.1	1	180
30				2	-	.5	.3	2	7	.1	1	3
31				2	-	.5	-	2	-	.2	20	-

Month	Observed				Run-off in acre-feet	Diverted by Perry canal (acre-feet)	Adjusted for diversion	
	Discharge in second-feet			Run-off in acre-feet			Run-off in acre-feet	Mean in second-feet
	Second- Foot- days	Maxi- mum	Mini- mum					
October.....								
November.....								
December.....								
Calendar year								
January 1940.....	89	3	2	2.9	177	61	238	3.9
February.....	386	200	3	13.3	766	2.0	766	13.3
March.....	62.2	3	.5	2.01	123	23	146	2.39
April.....	17.4	.9	.3	.58	36	82	117	1.96
May.....	223.3	150	.3	7.20	443	45	488	7.94
June.....	891	550	1	29.7	1,770	0	1,770	29.7
July.....	29.7	5	.1	.96	69	21	80	1.31
August.....	853.4	200	.1	27.5	1,690	11	1,700	27.7
September.....	983.9	500	.3	32.8	1,950	0	1,950	32.8
The period.....	-	-	-	-	7,010	245	7,260	-

Peak discharge.- June 26 (3 p.m.) 5,920 sec.-ft.; Aug. 18 (7 p.m.) 3,530 sec.-ft.; Sept. 2 (2:30 p.m.) 5,250 sec.-ft.

a No gage-height record; discharge computed on basis of weather records and records for station at Lake Pleasant Dam.

Agua Fria River at Lake Pleasant Dam, Ariz.

Location.- Staff gage, lat. $33^{\circ}51'$, long. $112^{\circ}16'$, in NW $\frac{1}{4}$ sec. 21, T. 6 N., R. 1 E., at left upstream end of Lake Pleasant Dam, 24 $\frac{1}{2}$ miles upstream from mouth of New River. Datum of gage is 1,431.2 feet above mean sea level (general adjustment of 1929).

Drainage area.- 1,460 square miles.

Records available.- November 1910 to September 1924 (published as Agua Fria River near Glendale, Ariz.), October 1933 to September 1940.

Extremes.- Maximum discharge known, about 105,000 second-feet Nov. 27, 1919; no flow during spring and summer of several years.

Remarks.- Records poor. Figures given herein represent flow into Lake Pleasant.

Discharge computed on basis of three factors as follows: 1. Change in contents of Lake Pleasant and in contents of small reservoir behind diversion dam $1\frac{1}{2}$ miles downstream from Lake Pleasant. 2. (a) Release from Lake Pleasant as measured by water-stage recorder and sharp-crested rectangular weir in canal 650 feet (revised) downstream from diversion dam, rated and frequently checked by a Clausen-Pierce weir rule; and (b) flow in time of flood as measured over diversion dam, computed from staff-gage readings of head and theoretical weir rating for the dam. 3. Loss from lake by evaporation, assumed as 0.7 of the evaporation measured once daily in 3-foot-square buried land pan near left end of Lake Pleasant Dam. Effect of bank storage and bank release in Lake Pleasant is not taken into account and therefore is reflected in the record. Diversions above Lake Pleasant for irrigation.

Cooperation.- Records collected and prepared in cooperation with the Maricopa County Municipal Water Conservation District No. 1.

Monthly discharge, water year October 1939 to September 1940

Month	Mean (second-feet)	Run-off (acre-feet)
October.....	5.29	325
November.....	8.86	527
December.....	8.49	522
Calendar year 1939.....	35.3	25,560
January.....	2.75	169
February.....	43.6	2,610
March.....	3.07	189
April.....	21.8	1,300
May.....	8.67	533
June.....	13.0	776
July.....	5.76	354
August.....	20.5	1,260
September.....	27.9	1,660
Water year 1939-40.....	13.9	10,120

Lake Pleasant at Lake Pleasant Dam, Ariz.

Location.- Staff gage, lat. 33°51', long. 112°16', in NW¼ sec. 21, T. 6 N., R. 1 E., at left upstream end of Lake Pleasant Dam on Agua Fria River. Datum of gage is 1,431.2 feet above mean sea level (general adjustment of 1929).

Drainage area.- 1,460 square miles.

Records available.- February 1928 to September 1940.

Extremes.- Maximum contents during year, 13,500 acre-feet Oct. 1 (gage height, 93.17 feet); no storage July 19 to Aug. 13.

1928-40: Maximum contents, 109,000 acre-feet Apr. 4-6, 1937 (gage height, 144.98 feet); no storage Sept. 5, 1933, July 19 to Aug. 13, 1940.

Remarks.- Lake is formed by multiple-arch dam; dam completed and storage began in 1927. Capacity, 178,000 acre-feet (revised) between gage heights 57.0 feet (22.0 feet above center line of outlet works) and 170.0 feet (top of spillway gates). There is no storage below gage height 57.0 feet because of accumulated silt. Water released from reservoir flows down river channel 1½ miles to diversion dam where it is diverted for irrigation near Beardsley. Figures given herein represent usable contents in Lake Pleasant and do not include contents of small reservoir formed by diversion dam.

Cooperation.- Gage-height record furnished by Maricopa County Municipal Water Conservation District No. 1.

Capacity table (gage height, in feet, and contents, in acre-feet)

57.0	0	90.0	11,220	140.0	99,100
60.0	425	100.0	19,420	150.0	115,500
65.0	1,295	110.0	30,595	160.0	144,800
70.0	2,390	120.0	46,100	170.0	178,000
80.0	5,740	130.0	65,450		

Note.- The above table was prepared by Maricopa County Municipal Water Conservation District No. 1 from contour surveys made about 1927 and adjusted by the Geological Survey for accumulated silt on basis of studies of inflow, outflow, and resultant changes in stage of reservoir; adjusted table first used Oct. 1, 1939.

Contents at 5 p.m., in acre-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13,500	9,830	8,730	7,280	7,310	9,750	9,470	2,350	2,010	2,650	0	1,150
2	13,480	9,740	8,710	7,230	8,630	9,750	9,460	2,310	2,000	2,650	0	1,150
3	13,470	9,660	8,680	7,230	9,180	9,750	9,460	2,190	2,000	2,500	0	1,730
4	13,470	9,590	8,640	7,270	9,330	9,750	9,460	2,080	2,000	2,400	0	1,560
5	13,290	9,520	8,620	7,280	9,430	9,740	9,450	1,970	2,000	2,350	0	1,420
6	13,050	9,470	8,580	7,270	9,520	9,740	9,440	1,900	1,990	2,170	0	1,280
7	12,840	9,420	8,530	7,270	9,570	9,740	9,350	1,820	1,990	2,010	0	1,330
8	12,660	9,370	8,500	7,270	9,600	9,740	9,250	1,790	1,990	1,840	0	1,150
9	12,450	9,370	8,470	7,260	9,630	9,740	9,070	1,790	1,980	1,660	0	980
10	12,260	9,320	8,440	7,280	9,640	9,730	8,840	1,790	1,980	1,450	0	818
11	12,030	9,270	8,420	7,290	9,660	9,730	8,610	1,790	1,980	1,300	0	626
12	11,820	9,240	8,370	7,290	9,680	9,720	8,250	1,790	1,970	1,130	0	430
13	11,600	9,190	8,300	7,270	9,680	9,720	7,890	1,790	1,970	942	0	321
14	11,380	9,130	8,240	7,270	9,680	9,700	7,630	1,790	1,970	784	393	90
15	11,170	9,080	8,180	7,270	9,680	9,700	7,160	1,790	1,960	593	527	96
16	10,950	9,030	8,120	7,240	9,680	9,700	6,830	1,790	1,960	439	538	100
17	10,800	8,990	8,050	7,250	9,680	9,700	6,480	1,790	1,950	287	538	116
18	10,650	8,950	8,000	7,250	9,680	9,700	6,130	1,790	1,950	31	538	123
19	10,520	8,910	7,940	7,250	9,690	9,690	5,820	1,780	1,940	0	722	167
20	10,390	8,900	7,880	7,250	9,690	9,690	5,360	1,780	1,940	0	805	164
21	10,270	8,880	7,800	7,250	9,690	9,690	4,990	1,780	1,930	0	808	169
22	10,200	8,840	7,730	7,250	9,690	9,690	4,720	1,780	1,940	0	821	171
23	10,140	8,800	7,670	7,250	9,700	9,690	4,360	1,780	2,000	0	857	173
24	10,140	8,770	7,650	7,260	9,700	9,690	4,040	1,940	2,000	0	905	176
25	10,140	8,740	7,570	7,260	9,710	9,690	3,720	2,020	2,000	0	1,090	177
26	10,100	8,710	7,520	7,270	9,730	9,690	3,450	2,020	2,000	0	1,130	180
27	10,090	8,700	7,470	7,270	9,730	9,680	3,110	2,020	2,550	0	1,150	183
28	10,080	8,710	7,400	7,270	9,730	9,680	2,850	2,020	2,640	0	1,150	184
29	10,010	8,720	7,360	7,270	9,730	9,670	2,640	2,010	2,660	0	1,150	409
30	9,960	8,720	7,300	7,270	-	9,550	2,510	2,010	2,660	0	1,150	661
31	9,900	-	7,280	7,270	-	9,470	-	2,010	-	0	1,150	-

Monthly gage height and contents, water year October 1939 to September 1940

Date	Gage height (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30.....	93.18	*13,500	-
Oct. 31.....	87.96	9,900	-3,600
Nov. 30.....	85.99	8,720	-1,180
Dec. 31.....	83.31	7,280	-1,440
Calendar year 1939.....	-	-	*-4,280
Jan. 31.....	83.29	7,270	-10
Feb. 29.....	87.68	9,730	+2,460
Mar. 31.....	87.26	9,470	-260
Apr. 30.....	70.46	2,510	-6,960
May 31.....	68.41	2,010	-500
June 30.....	71.02	2,660	+650
July 31.....	56.93	0	-2,660
Aug. 31.....	64.28	1,150	+1,150
Sept. 30.....	61.49	661	-489
Water year 1939-40.....	-	-	-12,840

*Computed on basis of revised capacity table.

Hassayampa River near Morristown, Ariz.

Location.- Water-stage recorder, lat. 33°53', long. 112°39', in SE¼ sec. 3, T. 6 N., R. 4 W., 600 feet downstream from south of San Domingo wash, 900 feet upstream from bridge of Atchison, Topeka & Santa Fe railroad, and 3.0 miles northwest of Morristown (formerly known as Hot Springs Junction). Datum of gage is 1,531.16 feet above mean sea level (general adjustment of 1929).

Drainage area.- 774 square miles.

Records available.- October 1938 to September 1940.

Extremes.- 1938-39: Maximum discharge during water year, 6,200 second-feet Sept. 6 (gage height, 8.7 feet) from rating curve extended above 1,600 second-feet on basis of slope-area measurement at 6,100 second-feet; no flow on many days.
1939-40: Maximum discharge during water year, 160 second-feet Feb. 1 (gage height, 5.9 feet); no flow on many days.

Remarks.- Records poor. Many small diversions above station for irrigation and mining.

Discharge, in second-feet, 1938-40

1938-39

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	2	1	3	3			0	0	0
2			1	2	1	3	2			0	0	0
3			1	2	2	3	2			0	5	0
4			1	2	2	3	1			0	0	150
5			0	2	1	3	1			0	0	55
6			1	16	1	3	1			0	13	1,200
7			1	10	2	2	1			0	25	188
8			1	5	3	2	1			0	15	7
9		1	0	3	2	2	2			0	30	1
10			1	2	3	3				0	15	0
11			0	1	2	3	1			0	10	20
12			0	1	2	3	1			0	11	330
13			0	1	2	3	0			0	3	110
14			1	1	2	3	0			0	1	1
15			2	1	2	3	0			0	0	0
16			3	1	2	3	1			0	0	0
17			1	1	4	4	1			0	0	0
18			1	1	3	3	1			0	0	0
19			1	1	2	3	1			0	0	0
20			1	230	1	3	1			0	0	0
21			1	480	1	3	1			0	0	0
22			1	20	1	3	1			0	0	0
23			1	10	1	3	1			0	0	0
24			1	5	0	2	4			0	0	0
25			0	3	0	2	4			3	0	45
26			0	3	0	2	3			0	0	5
27			1	3	1	2	4			0	0	2
28			1	3	1	3	5			0	0	1
29			1	3	1	-	3			0	0	1
30			1	3	1	-	3			0	0	1
31			3	1	-	2	-			0	0	-

Peak discharge.- Dec. 20 (6:30 p.m.) 2,700 sec.-ft.; Sept. 6 (9:40 p.m.) 6,200 sec.-ft.; Sept. 12 (5 p.m.) 1,600 sec.-ft.

Note.- Discharge for periods of no gage-height record, Oct. 1 to Nov. 16, Dec. 23 to Jan. 4, 7-18, and Jan. 28 to Feb. 3 computed on basis of four discharge measurements and study of weather records.

Discharge, in second-feet, of Hassayampa River near Morristown, Ariz., 1938-40--Continued

1939-40

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1	0.5	2	2	20	1	0.5					0
2	1	.5	2	2	15	1	.5					0
3	1	.5	2	2	10	1	.5					10
4	.5	.5	2	1	5	1	.5					1
5	.5	.5	2	1	5	1	.5					1
6	.5	.5	2	1	4	1	.5					1
7	.5	.5	2	1	3	1	0					1
8	.5	.5	2	1	2	1	0					1
9	.5	15	2	1	2	1	0					1
10	.5	2	2	1	2	1	0					0
11	.5	1	2	1	2	1	0					3
12	.5	1	2	1	2	1	0					2
13	.5	1	2	1	2	1	0					1
14	.5	1	2	1	2	1	0					.5
15	.5	1	2	1	2	1	0					.5
16	.5	1	2	1	2	1	0					.5
17	.5	1	2	1	2	1	0					.5
18	.5	1	2	1	2	1	0					.5
19	.5	1	2	1	2	1	0					0
20	.5	1	2	1	2	1	0					0
21	.5	1	2	1	2	.5	0					0
22	.5	1	2	.5	1	.5	0					0
23	.5	1	2	.5	1	.5	0					0
24	.5	1	2	.5	1	.5	0					0
25	.5	1	2	.5	1	.5	0					0
26	.5	1	2	.5	1	.5	0					0
27	.5	1	2	.5	1	.5	0					0
28	.5	15	2	.5	1	.5	0					0
29	.5	2	2	.5	1	.5	0					0
30	.5	2	2	.5	1	.5	0					0
31	.5	-	2	.5	-	.5	-					-

Note.-- Channel for low flow away from gage entire year; discharge computed on basis of 10 discharge measurements, and 14 field observations of flow, partial record during rises, and weather records.

Monthly discharge, in second-feet, 1938-40

Month	Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet
October 1938	15.5	0.5	0.5	0.50	31
November.....	28	1	0	.9	55
December.....	784	480	0	25.3	1,580
Calendar year 1938	-	-	-	-	-
January 1939	64	16	0	2.1	127
February.....	55	4	1	2.0	109
March.....	95	5	2	3.1	188
April.....	28	3	0	.9	56
May.....	0	0	0	0	0
June.....	0	0	0	0	0
July.....	3	3	0	.1	6.0
August.....	128	30	0	4.1	254
September.....	2,118	1,200	0	70.6	4,200
Water year 1938-39	3,318.5	1,200	0	9.09	6,590
October 1939	17.0	1	.5	.55	34
November.....	57.0	15	.5	1.90	113
December.....	62	2	2	2.0	123
Calendar year 1939 ..	2,627.0	1,200	0	7.20	5,210
January 1940	29.0	2	.5	.94	58
February.....	98	20	1	3.4	194
March.....	25.5	1	.5	.82	51
April.....	3.0	.5	0	.10	6.0
May.....	0	0	0	0	0
June.....	0	0	0	0	0
July.....	0	0	0	0	0
August.....	0	0	0	0	0
September.....	23.5	10	0	.78	47
Water year 1939-40	315.0	20	0	.86	626

Hassayampa River near Wagoner, Ariz.

Location.- Water-stage recorder, lat. $34^{\circ}18'$, long. $112^{\circ}34'$, in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 9, T. 11 N., R. 3 W., at bridge on Kirkland Junction-Wagoner road, $5\frac{1}{2}$ miles upstream from Milk Creek, and $7\frac{1}{2}$ miles upstream from Wagoner. Staff gage at same site and datum Jan. 12-20. Datum of gage is 3,741.51 feet above mean sea level (general adjustment of 1929, preliminary figure).

Drainage area.- 79 square miles.

Records available.- January to September 1940.

Extremes.- Maximum discharge during period, 171 second-feet Sept. 6 (gage height, 3.4 feet); minimum, 0.8 second-foot on several days.

Remarks.- Records fair. Small diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				a2	2	3	2	1	1	1	1	1
2				a2	4	4	1	1	1	.9	1	2
3				a2	3	4	1	1	1	1	1	1
4				a2	3	4	1	1	.9	1	1	1
5				a2	3	4	2	1	.9	.8	1	1
6				a2	2	4	2	1	.9	.9	1	6
7				a2	2	4	2	1	.9	1	1	5
8				a2	2	4	2	1	.8	1	1	2
9				a2	3	5	2	1	.8	1	1	1
10				a2	3	5	2	1	.8	1	1	1
11				a2	2	2	2	1	.8	1	1	1
12				2	1	2	1	1	.8	1	1	1
13				2	1	2	1	1	.8	1	1	1
14				2	1	2	1	1	.8	.9	1	1
15				2	1	2	1	1	.9	.9	1	1
16				2	1	1	1	1	.9	1	1	1
17				2	1	1	1	1	1	.9	1	1
18				2	1	1	1	1	1	.8	1	1
19				2	1	1	1	1	1	.8	1	1
20				2	1	1	1	1	1	.8	3	1
21				2	1	1	1	1	1	.8	1	1
22				2	2	1	1	1	1	.8	1	1
23				2	2	1	1	1	1	.9	1	1
24				2	2	1	1	1	1	.9	1	1
25				2	2	1	1	1	1	1	1	1
26				2	2	1	1	1	1	1	1	1
27				2	2	1	1	1	1	1	1	1
28				2	2	1	1	1	1	1	1	1
29				1	1	1	1	1	1	1	1	9
30				1	1	1	1	1	1	1	1	2
31				1	1	1	1	1	1	1	2	-
Month				Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet				
October.....												
November.....												
December.....												
Calendar year												
January.....				59	2	1	1.9	117				
February.....				56	4	1	1.9	111				
March.....				63	4	1	2.0	125				
April.....				38	2	1	1.3	75				
May.....				31	1	1	1.0	61				
June.....				28.0	1	.8	.95	56				
July.....				29.1	1	.8	.94	58				
August.....				34	3	1	1.1	67				
September.....				53	9	1	1.8	105				
The period.....				-	-	-	-	775				

a No gage-height record; discharge computed on basis of weather records and record for following days.

GILA RIVER BASIN

Gillespie canal at Gillespie Dam, Ariz.

Location.— Water-stage recorder, lat. 33°14', long. 112°45', in SE 1/4 sec. 28, T. 2 S., R. 5 W., 200 feet downstream from head gates at Gillespie Dam. Datum of page is 743.91 feet above mean sea level (general adjustment of 1929).

Records available.— May 1935 to September 1940.

Extremes.— Maximum discharge during year, 208 second-feet Aug. 18 (gage height, 7.75 feet); minimum daily, 19 second-feet July 31 to Aug. 4 and Aug. 13.
1935-40: Maximum discharge, 280 second-feet Aug. 18, 1936 (gage height, 7.13 feet); minimum daily, 3 second-feet Nov. 4, 1936.

Remarks.— Records good except those for period of estimated gage heights, which are fair. Canal diverts water from left bank of Gila River at Gillespie Dam for irrigation near Gila Bend. For records of another diversion at this dam, see Enterprise canal at Gillespie Dam on following page.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	105	80	128	131	161	130	118	78	35	24	19	40
2	99	78	124	140	164	128	119	76	36	23	19	42
3	96	82	125	142	161	130	117	76	38	24	19	44
4	93	84	125	134	154	133	115	75	33	25	19	44
5	91	78	124	128	150	133	115	73	29	23	20	42
6	91	80	122	126	145	128	111	77	30	23	20	40
7	89	78	120	128	141	124	106	76	31	22	22	42
8	82	80	116	133	142	121	106	70	33	23	21	41
9	81	88	116	133	144	120	111	64	34	23	21	40
10	87	96	113	132	140	120	108	65	33	22	21	40
11	88	99	115	130	135	121	96	64	29	22	20	47
12	82	98	109	128	138	120	91	59	30	22	20	48
13	76	94	103	127	140	119	89	58	29	22	19	46
14	78	93	100	121	138	114	88	50	27	23	21	42
15	76	c88	100	126	147	114	93	46	27	23	21	42
16	73	c94	101	132	152	79	91	46	27	24	36	42
17	70	c96	106	133	148	92	90	45	27	24	186	48
18	70	c94	104	138	145	112	92	45	28	25	194	57
19	69	c96	101	137	142	115	92	44	28	24	203	115
20	70	c92	100	138	142	114	88	46	27	23	160	174
21	72	c82	102	142	140	114	83	46	27	23	120	106
22	76	c86	103	142	137	116	82	46	27	23	112	64
23	72	c91	105	139	139	114	84	44	29	23	73	54
24	70	c91	110	138	140	115	87	42	29	22	54	50
25	72	c86	118	140	138	116	83	39	27	21	48	48
26	76	c84	124	140	138	116	82	37	26	21	46	46
27	76	c91	127	139	138	117	84	38	26	20	44	46
28	72	c98	124	140	136	118	83	37	25	20	45	46
29	72	c128	122	147	133	118	84	34	24	20	44	45
30	76	134	124	164	-	118	82	35	24	20	40	43
31	76	-	128	171	-	115	-	34	-	19	39	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						2,474	105	69	79.6	4,910		
November.....						2,739	134	78	91.7	5,430		
December.....						3,539	128	100	114	7,020		
Calendar year 1939.....						35,335	222	12	96.6	70,080		
January.....						4,237	171	121	137	8,400		
February.....						4,168	164	133	144	8,270		
March.....						3,643	133	79	118	7,230		
April.....						2,870	119	82	95.7	5,690		
May.....						1,665	78	34	53.7	3,300		
June.....						675	38	24	29.2	1,740		
July.....						696	25	19	22.5	1,380		
August.....						1,746	203	19	56.5	3,460		
September.....						1,624	174	40	54.1	3,220		
Water year 1939-40.....						30,276	203	19	82.7	60,050		

c Computed on basis of gage heights estimated from recorded range in stage and changes in elevation of reservoir from which canal diverts.

0.000

February 1936

UNITED STATES DEPARTMENT OF THE INTERIOR
Geological Survey

U.S. GOVERNMENT PRINTING OFFICE : 1935-O-33333

Enterprise canal at Gillespie Dam, Ariz.

Location.- Water-stage recorder, lat. $33^{\circ}13'$, long. $112^{\circ}46'$, in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 28, T. 2 S., R. 5 W., 600 feet downstream from intake at Gillespie Dam. Datum of gage is 732.15 feet above mean sea level (general adjustment of 1929).

Records available.- June 1935 to September 1939 (discharge measurements only), October 1939 to September 1940.

Extremes.- Maximum discharge recorded, 23 second-feet Feb. 1 (gage height, 3.65 feet); minimum daily discharge recorded, 4.0 second-feet Apr. 9.

Remarks.- Records good except those for period of no gage-height record which are poor. Canal diverts water from right bank of Gila River at Gillespie Dam for irrigation between dam and Gila Bend. For records of another diversion at this dam, see Gillespie canal at Gillespie Dam, on preceding page.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		9	8.5	9.2	10	9.7	10	11	7.6	6.0	6.1	10
2		#9	8.5	10	9.5	9.8	10	11	8.1	6.0	6.1	10
3			8.5	10	7.4	9.8	10	11	8.1	7.8	6.1	10
4		#9	8.5	9.8	5.3	10	10	11	7.8	8.0	8.1	10
5			8.5	9.8	5.3	10	10	9.8	7.7	7.8	8.1	10
6			8.5	9.8	7.8	10	10	10	7.8	7.7	8.1	10
7			8.5	10	9.3	10	10	10	8.0	7.8	8.1	11
8			8.5	10	9.3	10	7.2	9.7	8.1	8.0	8.1	11
9			8.3	10	9.3	9.8	4.0	9.5	8.3	8.0	8.1	11
10			6.3	10	9.3	10	11	9.5	8.3	7.8	9.2	11
11			8.5	10	8.8	10	21	9.5	8.3	7.3	11	11
12			8.5	10	9.0	10	21	9.7	8.3	7.7	9.2	11
13			7.7	10	9.0	10	21	9.5	8.5	7.7	9.0	11
14			6.4	9.8	9.0	10	11	9.2	8.5	8.0	9.2	10
15			6.4	9.8	9.7	10	5.0	8.8	8.5	8.1	9.2	10
16		9	6.6	10	9.7	7.8	14	8.8	8.5	8.3	9.8	10
17			6.7	10	9.7	8.3	12	8.8	8.3	8.3	19	11
18			6.7	10	9.7	10	6.1	8.8	8.3	8.3	20	9.3
19			6.7	10	9.7	10	12	8.8	8.3	8.3	20	8.3
20			6.7	11	9.8	10	16	6.8	8.1	6.3	18	12
21			6.7	11	9.8	10	13	8.8	6.0	8.3	17	9.0
22			6.9	11	9.8	10	14	8.6	8.0	8.3	16	6.9
23			7.0	11	9.8	10	14	8.5	6.0	8.3	13	6.3
24			7.3	11	10	10	14	8.3	7.8	8.3	12	9.2
25			7.7	10	10	10	13	8.0	7.8	8.3	12	9.0
26			8.1	9.0	10	10	13	7.8	7.8	8.5	11	10
27			8.3	8.8	10	10	13	8.0	7.8	8.5	11	11
28			8.3	8.8	9.8	10	12	8.0	7.8	8.5	11	11
29			8.3	9.7	9.8	10	12	7.8	8.0	8.5	11	10
30		10	8.3	11	-	10	12	7.8	8.0	8.5	11	10
31		8.2	8.6	11	-	10	-	7.8	-	8.3	10	-
Month				Second-foot-days		Maximum	Minimum	Mean	Run-off in acre-feet			
October.....				279		-	-	-	553			
November.....				270.2		-	-	9	536			
December.....				240.8		8.6	6.4	7.77	478			
Calendar year				-		-	-	-	-			
January.....				311.5		11	8.8	10.0	618			
February.....				264.6		10	5.3	9.12	525			
March.....				305.2		10	7.8	9.85	605			
April.....				361.3		21	4.0	12.0	717			
May.....				282.6		11	7.8	9.12	561			
June.....				242.6		8.5	7.7	8.09	481			
July.....				251.5		8.5	7.3	8.11	499			
August.....				351.5		20	8.1	11.3	697			
September.....				302.0		12	6.9	10.1	599			
Water year 1939-40.....				3,462.8		21	4.0	9.46	6,870			

*Discharge measurement.

Note.- Discharge for period of no gage-height record, Oct. 1 to Nov. 28, computed on basis of two discharge measurements and fact that quantity of water diverted is so regulated as to be nearly constant.

SULPHUR SPRING VALLEY

WHITWATER DRAW BASIN

Whitewater Draw near Douglas, Ariz.

Location.- Water-stage recorder, lat. $31^{\circ}21'15''$, long. $109^{\circ}35'00''$, in SW $\frac{1}{4}$ sec. 10, T. 24 S., R. 27 E., at bridge on U. S. Highway 80, $\frac{1}{2}$ miles upstream from international boundary and 2 miles west of Douglas. Datum of gage is 3,687.6 feet above mean sea level (Arizona Highway Department bench mark).

Drainage area.- 1,023 square miles.

Records available.- August 1911 to April 1922, June 1930 to December 1933, May 1935 to September 1940.

Extremes.- Maximum discharge during year, 2,750 second-feet June 24 (gage height, 10.26 feet); minimum, 0.3 second-foot July 7.

1930-40: Maximum discharge, 3,450 second-feet Aug. 10, 1931 (gage height, 12.15 feet); minimum, 0.1 second-foot May 26, June 9, 1937, July 11, 1939.

Maximum discharge known, 4,050 second-feet (estimated) July 27, 1919.

Remarks.- Records good except those above 200 second-feet, which are fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1939 to September 1940

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.8	0.4	1	0.8	0.8	0.8	0.6	0.6	0.7	1	0.9	3
2	.7	.4	1	.8	32	.9	.7	.6	.6	.5	.8	1
3	.7	.4	1	.8	3	.9	.7	.6	.5	.5	.7	1
4	.7	.5	.9	.8	7	.8	.7	.5	.5	.4	112	1
5	.7	.5	.8	.8	2	.8	.7	.5	.5	.5	51	1
6	.8	.5	.9	.8	1	.8	.8	.5	.5	.5	11	2
7	.8	.5	.9	.8	.8	.9	.8	.6	.5	.4	3	1
8	1	.6	.9	.8	.8	.9	.8	.6	.5	.4	1	.9
9	.7	.6	.8	.8	.8	.9	.8	.5	.5	.4	.7	.9
10	.7	.6	.8	.8	.8	.8	.7	.5	.5	.4	1	.9
11	.7	.6	.9	.8	.9	.8	.7	.5	.5	.4	46	.9
12	.7	.7	.8	.8	.9	.8	.6	.6	.5	.4	99	.9
13	.7	.7	.8	.8	.9	.7	.6	.6	.5	.5	212	.9
14	.7	.8	.8	.8	1	.7	.5	.6	.5	.5	511	.9
15	.7	.9	.8	.8	1	.8	.5	.7	.5	.6	36	.9
16	.7	.9	.8	.8	1	.8	.5	.6	.7	1	9	.9
17	.7	1	.8	.8	1	.8	.6	.7	.6	48	3	1
18	.7	.9	.8	.8	1	.7	.6	.8	.4	67	2	1
19	.7	.9	.8	.8	1	.7	.5	.7	.5	3	2	260
20	.7	.9	.8	.8	1	.7	.5	.8	.5	1	1	25
21	.7	1	.8	.8	1	.8	.5	.8	.7	1	1	22
22	.7	1	.8	.8	1	.8	.5	.8	47	1	1	120
23	.8	1	.8	.8	1	.7	.5	.8	323	35	1	3
24	1	55	.8	.8	1	.7	.5	.8	402	6	1	2
25	1	.7	2	.8	.9	.8	.6	.8	11	44	47	2
26	.8	2	3	.8	.8	.6	.7	.8	1	6	80	2
27	.6	1	1	.8	.8	.6	.6	.8	3	26	4	2
28	.5	1	.8	.8	.8	.6	.6	.6	1	2	2	2
29	.5	18	.8	.8	.8	.7	.6	.6	.7	32	2	3
30	.5	2	.8	.8	-	.8	.6	.6	3	4	2	1
31	.4	-	.8	.8	-	.7	-	.6	-	1	4	-
Month						Second-foot-days	Maximum	Minimum	Mean	Run-off in acre-feet		
October.....						22.1	1	0.4	0.71	44		
November.....						112.3	55	.4	3.74	223		
December.....						29.5	3	.8	.95	59		
Calendar year 1939.....						3,144.1	644	.1	8.61	6,240		
January.....						24.8	.8	.8	.80	49		
February.....						66.8	32	.8	2.30	132		
March.....						23.8	.9	.6	.77	47		
April.....						18.6	.8	.5	.62	37		
May.....						22.3	3	.5	.72	44		
June.....						302.9	402	.4	26.8	1,590		
July.....						285.4	67	.4	9.21	566		
August.....						1,248.1	511	.7	40.3	2,480		
September.....						464.1	260	.9	15.5	921		
Water year 1939-40.....						3,120.7	511	.4	8.53	6,190		

Peak discharge.- June 24 (12:30 a.m.) 2,750 sec.-ft.; Aug. 13 (11:50 p.m.) 2,160 sec.-ft.

In addition to the records of stream flow obtained at gaging stations in the Colorado River Basin and reported in the preceding pages, measurements of flow were made at other points, as shown in the following table:

Miscellaneous discharge measurements in Colorado River Basin during water year
October 1939 to September 1940

Green River Basin				
Date	Stream	Tributary to or diverting from-	Locality	Discharge (sec.-ft.)
Sept. 21	Green River.....	Colorado River.....	Sec. 22, T. 15 N., R. 107 W., at Green River, Wyo.	605
Oct. 25	do.....	do.....	do.....	550
Jan. 15	do.....	do.....	do.....	306
Feb. 13	do.....	do.....	do.....	372
Mar. 19	do.....	do.....	do.....	727
Apr. 16	do.....	do.....	do.....	568
May 13	do.....	do.....	do.....	522
May 20	do.....	do.....	do.....	1,760
June 12	do.....	do.....	do.....	1,510

Little Colorado River Basin				
Apr. 19	Little Colorado River.	Colorado River.....	200 feet below outlet of Lyman Reservoir.	4.06
25	do.....	do.....	do.....	2.98
29	do.....	do.....	do.....	.98
May 9	do.....	do.....	do.....	2.60
June 10	do.....	do.....	do.....	2.07
Apr. 19	do.....	do.....	At Cippolletti weir about $\frac{1}{2}$ mile below outlet of Lyman Reservoir.	4.15
25	do.....	do.....	do.....	3.17
29	do.....	do.....	do.....	.98
May 9	do.....	do.....	do.....	2.40
June 10	do.....	do.....	do.....	2.34
July 10	do.....	do.....	do.....	e.23
12	do.....	do.....	do.....	3.43
15	do.....	do.....	do.....	3.48
Mar. 21	do.....	do.....	Sec. 17, T. 12 N., R. 28 E., below Salado Springs, 5 miles southwest of St. Johns, Ariz.	7.18
Apr. 5	do.....	do.....	do.....	7.44
11	do.....	do.....	do.....	7.05
12	do.....	do.....	do.....	7.45
20	do.....	do.....	do.....	11.4
25	do.....	do.....	do.....	10.3
29	do.....	do.....	do.....	8.50
May 9	do.....	do.....	do.....	9.73
July 10	do.....	do.....	do.....	12.3
12	do.....	do.....	do.....	12.1
15	do.....	do.....	do.....	9.65
Sept. 21	Woodruff canal..	Silver Creek.....	N $\frac{1}{2}$ sec. 32, T. 16 N., R. 22 E., 250 feet below diversion dam that is control for station on Silver Creek near Woodruff, Ariz.	4.65
Nov. 4	Chevelon Irrigation Co.'s canal.	Chevelon Fork.....	W $\frac{1}{2}$ sec. 23, T. 18 N., R. 17 E., at diversion dam 2 miles below station on Chevelon Fork near Winslow, Ariz.	1.32
Mar. 19	do.....	do.....	do.....	3.74
May 2	do.....	do.....	do.....	1.51
June 4	do.....	do.....	do.....	1.68
July 19	do.....	do.....	do.....	1.86
Oct. 4	Clear Creek.....	Little Colorado River.	SW $\frac{1}{4}$ sec. 3, T. 18 N., R. 16 E., at mouth, 1 mile below diversion dam that is control for station on Clear Creek near Winslow, Ariz.	1.67
Nov. 4	do.....	do.....	do.....	2.20
Dec. 4	do.....	do.....	do.....	3.11
19	do.....	do.....	do.....	3.87
Jan. 4	do.....	do.....	do.....	3.54
18	do.....	do.....	do.....	3.97
Feb. 2	do.....	do.....	do.....	5.68
19	do.....	do.....	do.....	23.4
May 2	do.....	do.....	do.....	20.8

Gila River Basin				
Nov. 20	Gila River.....	Colorado River.....	W $\frac{1}{2}$ sec. 21, T. 19 S., R. 20 W., above head of Sunset canal, 13 miles east of Duncan, Ariz.	97.9
Dec. 11	do.....	do.....	do.....	117
Jan. 22	do.....	do.....	do.....	127
Mar. 30	do.....	do.....	do.....	324
May 1	do.....	do.....	do.....	147
June 3	do.....	do.....	do.....	46.3
Aug. 28	do.....	do.....	do.....	42.3
Feb. 7	Hogollon Creek...	Gila River.....	N $\frac{1}{2}$ sec. 31, T. 14 S., R. 16 W., $\frac{1}{2}$ mile above mouth and 6 $\frac{1}{2}$ miles northeast of Gila, N. Mex.	74.6
Dec. 21	Warm Springs.....	do.....	SW $\frac{1}{4}$ sec. 17, T. 3 S., R. 18 E., 1,700 feet downstream from Coolidge Dam.	.45
May 21	do.....	do.....	do.....	.50
July 11	do.....	do.....	do.....	.49

Miscellaneous discharge measurements in Colorado River Basin during water year
October 1939 to September 1940--Continued

Gila River Basin--Continued

Date	Stream	Tributary to or diverting from-	Locality	Discharge (sec.-ft.)
Oct. 2	San Pedro canal..	San Pedro River.....	SW $\frac{1}{4}$ sec. 23, T. 5 S., R. 15 E., at mouth of San Pedro River, 1 mile west of Winkelman, Ariz.	0.4
Nov. 15	do.....	do.....	do.....	1.77
Dec. 15	do.....	do.....	do.....	.52
Jan. 2	do.....	do.....	do.....	.89
Jan. 13	do.....	do.....	do.....	.54
Mar. 1	do.....	do.....	do.....	2.00
Mar. 21	do.....	do.....	do.....	3.80
Apr. 1	do.....	do.....	do.....	2.50
Apr. 11	do.....	do.....	do.....	3.15
May 1	do.....	do.....	do.....	.92
May 21	do.....	do.....	do.....	.96
June 3	do.....	do.....	do.....	.5
July 2	do.....	do.....	do.....	.86
Feb. 11	Indian Service cooperative canal.	Gila River.....	SW $\frac{1}{4}$ sec. 16, T. 2 S., R. 2 E., about 200 feet below diversion dam that is control for station on Gila River near Laveen, Ariz.	13.0
Mar. 29	do.....	do.....	do.....	16.7
Mar. 21	do.....	do.....	do.....	11.8
Apr. 10	do.....	do.....	do.....	4
May 1	do.....	do.....	do.....	10.1
May 21	do.....	do.....	do.....	6.17
July 3	do.....	do.....	do.....	9.59
July 23	do.....	do.....	do.....	4.48
Aug. 13	do.....	do.....	do.....	7.91
Sept. 5	do.....	do.....	do.....	13.7
Sept. 24	do.....	do.....	do.....	5.91
Oct. 16	do.....	do.....	do.....	7.29
May 13	Sonoita Creek....	Santa Cruz River....	Sec. 21, T. 22 S., R. 15 E., at station near Patagonia, Ariz.	.45
June 4	do.....	do.....	do.....	.34
June 20	do.....	do.....	do.....	0
May 13	do.....	do.....	Sec. 20, T. 22 S., R. 15 E., at site of former gaging station, 2,700 feet below station near Patagonia, Ariz.	1.34
June 4	do.....	do.....	do.....	.77
June 20	do.....	do.....	do.....	.45

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